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ABSTRACT

This proceedings contains the texts of 5 invited papers and 28 refereed papers. The following are among the papers included: "Consumer Interest in the 1990's and Beyond" (Turner); "Esther Peterson and the Consumer Movement" (Galbraith); "The Public's Right to Government Information" (English); "Partnerships in Fighting Consumer Fraud" (Armstrong et al.); "Building Linkages in the Consumer Interest" (Schuchardt, Garman, Hogarth); "Retirement Decisions" (Hong, Yu); "Retirement Timing Decisions of American Men" (Kolodinsky, Avery, Pelch); "Confidence in a Financially Secure Retirement" (DeVaney); "Financial Preparation for Retirement" (Malroutu, Xiao); "Factors Affecting Human Capital Expenditures of Female-Headed Households" (Jang); "Do Marital Status and Presence of Children Affect Women's Wage Rate?" (Wang); "Impact of the Expanded Earned Income Tax Credit on Work Incentives for Welfare Recipients in North Carolina" (Walden); "Financial Knowledge and Behavior of Welfare Recipients" (Marlowe, Godwin, Maddux); "Wife's Employment and Food Expenditures Away from Home" (Jensen, Yen); "Welfare Analysis of Agricultural Policies Using Complete Demand Systems for Different Representative Households in the U.S." (Zuo, Chern); "Lifecycle, Financial and Attitudinal Characteristics of Charitable Donors" (Drollinger, Johnson); "Transaction Costs, Value Structures, and the Economic Organization of Marital Incomes" (Fletcher); "On Taking a Values-focused Approach to the Teaching of Consumer Economics" (Garman, Leech, Ellerbrock); "Protesting Food Price Rises in Retail Markets" (Friedman); "Consumerism in Korea" (Rhee, Lee); "Global Consumer Education" (MacGregor, Greenfield); "Cigarette Consumption in China" (Wang, Halbrendt, Jensen); "Are All Debts Created Equally?" (Godwin); "Determinants of Bank and Retail Credit Card Use" (Choi, DeVaney); "Households Showing Financial Characteristics of Potential Bankrupts" (Yieh, Widdows); "Trends in Environmental Marketing Claims Since the FTC (Federal Trade Commission) Guides" (Mayer et al.); "Consumer Activism to Secure Ecological Objectives" (Friedman); "Consumer Education for Limited Resource Families" (Hogarth, Harrison, Cascio); "Impact of Medicare HMOs (Health Maintenance Organizations) on Business, Private Consumers, and Government (Steiman, Reiboldt); "Portrayal of Children in Advertisements in Selected Magazines" (Hood et al.); "Housing Affordability" (Combs, Combs, Ziebarth); and "Household Demand System Analysis" (Fox). Also included are abstracts/descriptions of 12 refereed showcase and poster presentations; summaries of 10 panel, workshop, and invited paper sessions; and abstracts of 4 graduate student papers. (MN)

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Karen F. Folk, Editor

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Volume 41

Karen Fox Folk
Editor

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FROM THE EDITOR

The 41st Annual Conference of the American Council on Consumer Interests was the first meeting held concurrently with the Consumer Federation of America Consumer Assembly. Those attending the conference March 15-18th in Washington, D.C. had the opportunity to attend both ACCI and CFA sessions and on Friday morning a joint general session convened to hear lively panel debate and presentations by Ann Brown, Consumer Product Safety Commission, and noted Harvard economist, John Kenneth Galbraith. James S. Turner, Attorney, addressed the issues of international consumerism in the Colston Warne Lecture.

Fifty-six manuscripts were submitted for consideration as refereed papers with 27 accepted for presentation (52% rejection rate). Papers covered a wide variety of topics including retirement issues, welfare, food-related issues, values and consumer ethics, as well as fraud, credit, environmental and international consumer issues. The ACCI Showcase, called the "networking opportunity of the year," was designed to be an informal event where conferees could circulate amongst displays, and hear "infomercials" on selected topics. There were 16 consumer research and education displays, chosen from 23 submissions by the ACCI Program Team through a refereed process (30% rejection rate). Of the 16, eight were named to present "infomercials" (5-minute summaries of their work). In addition to the refereed process, nearly 25 organizations accepted ACCI's invitation to provide a simple display and contact person at the Showcase.

With Jeanne Hogarth taking responsibility for research presentations and Jane Schuchardt organizing the Showcase event with assistance from Tom Garman in obtaining respected and informative keynote speakers, the conference was an exciting blend of the old and new. New events included the opportunity to attend the premiere of the Consumer Research Foundation's film chronicling the consumer movement and the singing debut of several illustrious ACCI trailblazers. Joan Kinney supervised the display setup and organization with her usual professionalism. All are to be commended for their hard work and success in creating a new format for the joint meeting with CFA. With a late change of hotel, Horacio Soberon-Ferrer and Mitch Mokhtari, local arrangements chairs, coped with construction and room changes with ease. Many thanks for their time spent making the meeting possible in this location.

These proceedings would not have happened without the many hours of finetuning and formatting provided by secretaries Jean Storch and Jean Flor as well as the expert advice of Anita Metzen. With her research into changes which would produce a more readable proceedings, I made the decision to change the font from Courier to the proportional Times New Roman. This shortened all submissions, necessitated repositioning tables and delayed completion but the result is a "new and improved" appearance which will be incorporated into submission guidelines for next year.

Karen Fox Folk
University of Wisconsin-Madison

1995 ANNUAL ACCI CONFERENCE

Program Chairs: Jeanne M. Hogarth, Cornell University, Jane Schuchardt, USDA Extension Service and E. Thomas Garman, Virginia Polytechnic Institute and State University
Local Arrangements: Manouchehr "Mitch" Mokhtari, University of Maryland and Horacio Soberon-Ferrer, USDA
Exhibits Chair: Joan Kinney, University of Wisconsin
Graduate Student Sessions: Sharon DeVaney, Purdue University
Consumer Interests Annual Editor: Karen Fox Folk, University of Wisconsin

PAPER AND POSTER REVIEWERS

Thanks to the following people who so generously served as reviewers for the refereed papers presented at this conference.

Connie J. Armstrong, Southern Illinois University
Rosemary Avery, Cornell University
William Bailey, University of Arkansas
Cathy Bowen, The Pennsylvania State University
Keith Bryant, Cornell University
John Burton, University of Utah
Mary Carsky, University of Hartford
Ann Coulson, Kansas State University
Joan Courtless, Family Economics Research Group
Brenda Cude, University of Illinois
Carol Denson, University of Delaware
Julia Dinkins, Family Economics Research Group
Janet Fast, University of Alberta
Cynthia Needles Fletcher, Iowa State University
Karen Fox Folk, University of Wisconsin-Madison
Ray Forgue, University of Kentucky
Steve Garasky, Iowa State University
Janice Heckroth, Indiana University, Pennsylvania
Gong-Soog Hong, Purdue University
Holly Hunts, University of Illinois
Jutta Joesch, University of Washington
Phyllis Johnson, University of British Columbia
Virginia Junk, University of Idaho
Robert Kerton, University of Waterloo
Karol Kitt, The University of Texas at Austin
Jane Kolodinsky, University of Vermont
Connie Kratzer, Virginia Tech
Robert Kroll, Rock Valley College
John Kushman, University of Delaware
Jinkook Lee, University of Tennessee-Knoxville
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Carol Makela, Colorado State University
Julia Marlowe, University of Georgia
Jennifer Martin, Texas Women's University
Carol Meeks, University of Georgia
Manouchehr Mokhtari, University of Maryland
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Mary Pritchard, Northern Illinois University
Cyrus Ramezani, University of Wisconsin-Madison
Deanna Sharpe, University of Alabama
Carmen Steggell, Utah State University
Karen Stein, University of Delaware
Karen Varcoe, University of California-Riverside
Michael Walden, North Carolina State University
Mary Winter, Iowa State University
Jing-jian Xiao, University of Rhode Island

Reviewers of Graduate Student Papers for 1995 Conference

Thanks to the following young professionals who served as reviewers for the refereed graduate student papers presented at this conference.

HeeSun Noh Choi, Purdue University
Deanna Grobe, Oregon State University
Douglas Moore, University of Missouri-Columbia
Glenn Muske, Iowa State University
Sun Yung Park, The Ohio State University
Richard Thompson, University of Georgia
Virginia Solis Zuiker, The Ohio State University

THE AMERICAN COUNCIL ON CONSUMER INTERESTS

ACCI was established in 1953. Over these past 41 years, numerous professionals have contributed their time and energies to serve the ACCI membership in leadership positions.

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	Norman Silber, Hofstra University
	Marlene Stum, University of Minnesota
	Josephine Swanson, Cornell University
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Career Opportunities:	Janet Garkey, Johnson County Extension
Consumer Education:	Mary Ellen Rider, University of Nebraska
Development:	Sherman Hanna, Ohio State University
Distinguished Fellows Award:	Karen Goebel, University of Wisconsin
Finance:	Ray Forgue, University of Kentucky
Future Directions:	Cathleen Zick, University of Utah
International Consumer Affairs:	Margaret Charters, Syracuse University
Membership:	Scott Maynes, Cornell University
Nominations & Elections:	Brenda Cude, University of Illinois
Research:	Charles Hennon, Miami University
Stewart M. Lee Award:	Janice Holm Lloyd, North Carolina State University
Student Research Awards:	Manouchehr "Mitch" Mohktari, University of Maryland

The Consumer Interest in the 1990's and Beyond
The 1995 ACCI Colston Warne Memorial Lecture

Adam Smith's "consumer interest" parallels Thomas Jefferson's "consent of the governed." Progressive (1887 to 1915), New Deal (1933 to 1937) and post-WWII (1951 to 1980) Americans shaped policy with consumer ideas. Congress kept passing more consumer laws. Kennedy's Consumer Bill of Rights -- safety, choice, information and to be heard -- define consumer policy. The Toffler-described information society parallels consumer values. Small business in the information society acts structurally like consumers. Newt Gingrich misses the point. Post-industrial consumer policy will combine small business and consumer interests.

James S. Turner[1]

I first met Colston Warne in the summer of 1970, the year he retired, after forty years, from teaching at Amherst. We were both addressing a Creative Advertising Workshop involving hundreds of ad agency executives. I was new to the consumer movement. My book, The Chemical Feast: The Nader Report on the Food and Drug Administration, had just been published. To me Colston Warne, President of Consumers Union for its first 44 years, was a towering figure of heroic proportions.

My family had subscribed to the Consumer Reports since the mid-1940s. Ralph Nader had insisted that my first task working with him in 1968 be to read the past two years' issues of the magazine. I believed that the consumer voice Colston had done so much to shape, though focused sharply on the marketplace, spoke the broader language of democracy. I knew of Colston as a wide ranging activist with an expansive mind. Yet here he was taking time, at his initiative, to help me with my presentation to the advertising industry.

It bemused him to be invited to speak to people who often had spoken of him as their nemesis. He said they invited him every five years or so probably just to keep an eye on him and find out what new he was up to. In 1970 five years seemed like a long time to me. To him it was the blink of an eye in the long drive of correcting the imbalances, injustices and inequities of an economic system that contained too much exploitation of the weaker and poorer by the stronger and richer. He believed that helping people learn how to get the best quality for the best price actually addressed the fundamental arrangements of society.

I recently found the best summary of the points he made to me that day in 1970 in a quotation from him on the jacket of the book of his lectures entitled The Consumer Movement, called to my attention and edited by Richard L.D. Morse.[2]

"The central faith of the consumer movement," Colston wrote, "is that free choice lies at the very core of democracy in an economic system. But free choice depends upon a fair exchange of knowledge--knowledge of price, knowledge of quality, knowledge of quantity, and knowledge of the limitations associated with the product for which we exchange money. If this freedom of choice is to serve as the main-spring of our economic system, it must be informed choice upon which the consumer can rely. No advertiser can justly boast of a consumer vote of confidence in his product when the voter has been denied the knowledge essential to such a rational choice. Uninformed choice is not free choice."

Here Colston connects the informed market and free choice with democracy as essential to effective workings of our society and its economy. It is from this angle that consumers, the consumer interest and the consumer movement play an essential role in shaping and maintaining democratic society in the 1990's and beyond. I believe, as I have said previously to many consumer groups including ACCI, that "Consumers are to economics what voters are to politics." If that thought did not originate in my 1970 talk with Colston Warne, that conversation certainly reinforced it.

Today I want to look at the past and the future of consumerism though the lens of Colston Warne's insight and then look at how consumer ideas play in the current transition from an industrial to a post-industrial society. I do this, as I have done at previous ACCI meetings, with the purpose of suggesting some areas where consumer research can contribute to the understanding, if not the resolution, of major social problems.

Consumerism's Past

The Warne/Morse book The Consumer Movement should be read by anyone interested in the breadth and scope of consumerism. In it Colston Warne says of Consumer's Union "So far as I can see, we [CU] are the only reform organization of the Great Depression that ever did succeed. Without exception, all the rest -- and they were very numerous -- disappeared."[3]

That CU was spawned, survived and prospered as the off-spring of a bruising and disheartening strike of the employees of Consumers Research makes the success even more remarkable. From a different angle, however, that success can be seen as evidence of the power and durability of the consumer idea. The fact that Consumer Research also continued to do its consumer work underscores the power of looking at society from the viewpoint of the consumer.

In fact, the central role of consumers to the economy is an idea deeply rooted in the American system. During the American Revolution, Adam Smith wrote in the Wealth of Nations, "Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only in so far as it may be necessary for promoting that of the consumer."[4]

This statement, the economic corollary of Thomas Jefferson's nearly simultaneous 1776 political assertion that all governments derive "their just powers from the consent of the governed,"[5] underpins the operation of the American economy. These ideas of Smith and Jefferson forged what Max Lerner called in his 1937 forward to Smith's book the new doctrine of "economic liberalism and freedom from governmental interference"[6] -- the driving force of the most powerful economy in history.

Consumption's primacy, Smith says, is "obvious," attempting to prove it "absurd." But mercantilism sacrifices the consumer interest "to that of the producer;" and considers "production and not consumption" the reason for "all industry and commerce."[7]

I remember the first time I used this quotation in a speech. I was addressing a meeting of state and local drug officials in 1974 in Virginia Beach, Virginia. When I finished reciting the quotation, a drug company official in the audience jumped up and said "Yeah, who else believes that beside you and Adam Smith?" This reaction gave me some personal sense of the power of Smith's insight to unsettle established authority. Smith went on:

> "Who contrived this system?" Not, Smith writes, "consumers ...we may believe, whose interest has been entirely neglected; but the producers, whose interest has been so carefully attended to" particularly "our merchants and manufacturers."[8]

In the 1790's, twenty years after his and Smith's major writing, when most Americans lived on farms and most of the rest ran small businesses, Jefferson recommended a set of weights and measures standards, kicking off American consumer protection.

Economic dependence destroys political freedom, Jefferson thought. Liberty rested on economically independent small businesses and farms--his day's consumers. Weights and measures rules protect weaker from more powerful buyers and sellers.

"The pursuit of happiness" required this freedom and independence. The intellectual strategy of Smith and Jefferson truly revolutionized institutional thinking. Both challenged a system that until their time saw power flowing from the top down -- from the deity, to the king, to the nobles, to the people -- with a set of ides that said the power flowed upward from the bottom -- from the people as voters and consumers creating and supporting governments and markets.

Max Lerner points out that "Smith's system of thought took its shape from his intense reaction against the elaborate apparatus of controls which the surviving feudal and mercantilist institutions were still imposing on the individual. The need for removing these controls was Smith's underlying theme."[9]

Smith, according to Lerner, reveals "a strain of partisanship for apprentices and laborers, for farmers, for the lowly and oppressed everywhere, and a hostility to the business corporations, the big-businessmen of the day, the ecclesiasts and the aristocrats ... showing Smith's concern for the common man."[10]

"Far more important," however, Lerner continues, "is the doctrine of labor value which is the core of Smith's economics. In enunciating for the first time the doctrine that labor is the sole source of value in commodities, Smith became the forerunner, ... [though] as an originator ...[he] developed this doctrine clumsily," of radical thinkers including Marx.[11]

In the meantime, Jefferson, according to Gary Wills in Inventing America: Thomas Jefferson's Declaration of Independence, embedded the 18th century Scottish enlightenment notion of "happiness" into American life as close to an inalienable right. The happiness Jefferson wrote of, according to Wills, came from the 1725 writings of Francis Hutcheson which contained the assertion that "the action is best which accomplishes the greatest happiness for the greatest numbers..."[12]

V. S. Naipaul, the highly acclaimed British novelist born of Hindu parents in Trinidad, speaks of

"Our Universal Civilization" (in a speech reprinted in the Nov 5, 1990 New York Times) which is drawing wildly diverse people from all over the world toward it.

Naipaul says, "Because my movement within this civilization has been from Trinidad to England, from the periphery to the center, I may have felt certain of its guiding principles more freshly than people to whom these things were everyday. One such realization -- I suppose I have sensed it all my life, but I have understood it philosophically only during the preparation of this talk -- has been the beauty of the idea of the pursuit of happiness. Familiar words, easy to take for granted; easy to misconstrue.

"This idea of the pursuit of happiness is at the heart of the attractiveness of the civilization to so many outside it or on its periphery. I find it marvelous to contemplate to what an extent, after two centuries, and after the terrible history of the earlier part of this century, the idea has come to a kind of fruition. It is an elastic idea; it fits all men. It implies a certain kind of society, a certain kind of awakened spirit. I don't imagine my father's Hindu parents would have been able to understand the idea. So much is contained in it; the idea of the individual, responsibility, choice, the life of the intellect, the idea of vocation and perfectibility and achievement. It is an immense idea. It cannot be reduced to a fixed system. It cannot generate fanaticism. But it is known to exist, and because of that, other more rigid systems in the end blow away."

The Jeffersonian ideal of a society of small businesses and farms occupying a nation with a small government, in Jefferson's mind the necessary home for "pursuit of happiness," got diverted by industrialism.

Between 1800 and the end of its Civil War in 1865, America developed an industrial corporate sector. Jefferson's embargo of British goods from 1805 to 1809 caused Americans to create their own indigenous manufacturers.

In the 1819 case of *Dartmouth College v. Woodward*[13] Supreme Court Chief Justice John Marshall applied the clause of the American Constitution protecting contracts[14] to corporate charters. Government could no longer revoke charters it had granted.

Industrial corporations flourished. By 1845 this "industrial revolution," primarily Northern, could not be reversed. The Civil War further concentrated industrial power, which the North used to crush secession of the primarily agrarian South.

After the Civil War, boom and bust economic cycles, robber baron excesses and political corruption upset the public. In 1887 Congress, with consumer protection rhetoric, passed the Interstate Commerce Act, launching the thirty year Progressive era.

Government protecting railroad consumers -- farmers, miners, business owners -- from abusive routes and rates seemed sound to reformers: government power as an antidote to corporate abuse. But the bill passed only when railroaders saw it helped them.[15]

Legislative success with railroads led Progressives to try other regulation. Between 1887 and 1916 Congress passed 56 consumer laws.[16] Still, corporations accumulated more economic power while Americans remained agrarian (60% lived on farms in 1900).

World War I diverted America from its regulatory binge. But in the twenty-two years following WWI, including FDR's New Deal, the nation again turned to consumer protection laws, passing 73 new ones or 3.3 a year compared to 1.9 by the Progressives.

New Dealer Gardner Means called FDR's consumer programs "the peculiar American answer to the economic forces driving the rest of the world to choose between Communism and Fascism."[17] Then WWII led the nation away from its regulatory impulse again.

After WWII (1951 to 1980) regulatory legislation got back on track with 227 new consumer laws passed for an average of 7.6 per year. In the meantime, Sweden's consumer protection government (1930's to 1980's) developed the world's highest standard of living.

In 1962, in a Jeffersonian vein, President Kennedy announced a Consumer Bill of Rights -- choice, safety, to be heard and information -- to Congress. He also ordered use of the Federal weights and measures program to protect consumer rights nationwide.[18]

This Kennedy message highlighted modern consumerism. Fewer than 6% of post-WWII Americans worked on farms. Most of the rest worked for wages, many in large corporations or government. Americans expressed their economic stake primarily as consumers. These ideas may illuminate the world we now see emerging out of industrialism.

Consumerism's Future

In a 1982 presentation to ACCI, I quoted Alvin Toffler saying that, "The Second Wave [industrialism], drove a giant invisible wedge into our economy, our psyches, and even our sexual selves...[splitting apart] production and consumption...that had always, until then, been one."[19]

Industrial workers and managers struggled, obscuring the deeper conflict between producer (worker

and manager) demands for higher wages, profits, and benefits and the counter demands of consumers (including the same people) for lower prices.[20]

Industrialism advanced individuals economically by raising income. Post-WWII consumerism built individual economic power by improving outgo. It tried modestly to narrow the price/quality and production/consumption gaps created by industrialism.

This history establishes the framework for an even more vigorous consumer protection future. Cyclical projection and precursor jurisdiction methodology forecast 350 to 450 new consumer laws for debate and passage between 1989 and 2018[21].

Early 1990's food label, organic farming, and cable TV rules suggest the soundness of this projection and a future consumerism looking much like its past. Consumer feedback, choice, safety and information create the competition that disciplines markets.

However, current context -- a global economy, the information revolution, an aging, high birthrate population -- underlines Toffler's observation that increasingly knowledge, not force or wealth, defines power[22] and magnifies consumer impact.

Focus on government's role, an important secondary topic, may obscure a deeper power shift from organizations toward persons. However, certification, registration, and local regulation all increase rules while ostensibly lessening overt government.

It is these facts and trends that allow John Naisbitt to write Global Paradox based on the premise that "the bigger the world economy grows, the more powerful its smallest players."

Listen to Naisbitt: "The idea that central government--one huge mainframe--is the most important part of government is obsolete, which means the end of politics as we know it, as we shift from representative democracy to free-market democracy.

"The deployment of power is shifting from the state to the individual. From vertical to horizonal. From hierarchy to networking. Power is flowing in all directions -- unpredictable, a little chaotic, certainly messy -- not well ordered like hierarchical top-down arrangements.

"Politically, the world has shifted from left vs. right to local vs. global, or universal vs. tribal. New leadership must help us sort this out as politics begins to reemerge as the engine of individualism.

"It is a global shift from the state to the importance of the individual, and riding on the wave of the telecommunications revolution, the opportunities for individual freedom and enterprise are totally unprecedented."

For example, policing the Internet, finance (S&Ls), trade, safety, quality and price information, protecting privacy, speech, intangibles, are all matters of hot debate even as we observe so-called deregulation. These issues and more wait for one or more of the 350/450 new consumer laws/ rules (state, federal or "voluntary") of the next 25 years. As Toffler says, "Rights of redress, responsibility for error or bias, issues of privacy and fairness will all cascade into executive suites and the courts in the years to come as society tries to adapt to the existence of extra-intelligence."[23]

This exploding future of consumer opportunities would not have surprised Colston Warne. In the last of his 1977 lectures on the consumer movement, he said, "There is one idea emerging now that has a real future -- the application of computer technology to consumer interests." Several of the uses he mentioned -- computer ordering of standardized goods, computerized health records on smart cards, computer-compared insurance buying -- resemble uses that Toffler sees in the market in 1990.

The energy market Toffler describes operates in "an economy of small, interacting firms forming themselves into temporary mosaics [which] is more adaptive and ultimately more productive than one built around a few rigid monoliths ...In the new economy the receptionist and the investment banker who assembles the capital, the key punch operator and the sales person, as well as the systems designer and telecommunications specialist all add value. Even more significantly, so does the consumer."[emphasis added][24]

"Though he never logged on," Newsweek says, Congress named its Net node "Thomas" for Thomas Jefferson, the "most quoted ... Info Age" sage.[25] As knowledge power grows, Jefferson/Smith economic liberalism and freedom from governmental interference expands.

Consumers are to economics what voters are to politics. Using powerful new information tools, consumers increasingly influence markets. In the emerging economy consumers, the consumer interest and the consumer movement stand to play key roles managing this power from knowledge. An alert consumerism faces a robust future.

But who is the consumer, what is the consumer interest? This topic deserves more serious and detailed examination than time allows today. However, I want to focus on one aspect of the topic in the context of the emerging economy -- small business.

In The Road to 2015: Profiles of the Future, John L. Peterson writes about what happens to the economy in the next twenty years. "Big Business Disappears: The era of the large industrial enterprise is

over. ...More affluent and educated consumers are changing the character of markets ...New information technologies, with emphasis on quick product turnover and informal alliances, smash the power of the large firm ...Medium-sized firms using effective partnerships and alliances become the new kings of the hill."[26]

Compare this to Colston Warne's argument that standards programs validating the comparability of products, such as making public which products meet federal procurement standards, are essential to the development of consumer effectiveness. "This idea cuts two ways," he says in The Consumer Movement lectures. "If consumers buy goods that are fully functional and have no nonsense about them, no wasted material, and last for a maximum period [of] time, then society can economize on resources. At the same moment, the small, efficient producer who is coming into the market with new equipment, and new ingenuity is given a chance to compete in a market that has been previously hogged by the giant companies that brook no competition. Thus, the antitrust laws are reinforced. This is a pro-competition device which involves the element of certification."[27]

More importantly, small business and consumers have a structural relationship with the economy that is similar. In a 1973 speech to a combined audience of consumer advocates and supermarket executives, sponsored by the Community Nutrition Institute, I argued that "retailers should see themselves as buying agents for consumers rather than selling agents for producers." The food retailers present reacted positively and when they created the Food Marketing Institute a few months later its charter referred to food retailers as buying agents for consumers.

I believe that this recognition has played an important part in causing the entire society to shift from the FDA view of the 1960's -- that claiming a direct relationship between food and health was "quackery" -- to a nation of food producers, consumers and regulators all trying to figure out how best to tell consumers of the health benefits of food. I believe that the shifting structure of the economy allows the same kind of joint action, if not alliance, between consumers and small business.

A preliminary check on this possibility reveals a real opportunity for exploring at least joint activity on a number of issues.[28] Various laws define small business. For example, to the US Defense Department "...a business is small if it has no more than 500 employees, regardless what industry they are in."[29] USDA small business exemptions from NLEA for meat and poultry are "Annual gross sales... of not more than $500,000, or gross sales made or business done in sales of food...of not more than $50,000."[30] EPA assistance programs for small businesses complying with the 1990 Clean Air Act apply to businesses with "No more than 100 employees and emitting no more than 50 tons of any one of the pollutants listed in the Clean Air Act or more than 75 tons annually." Financial institutions with assets of $10 million or less are defined by law as small.[31] Indeed, every consumer protection act of the past thirty years has had a small business exemption. Even the anti-trust acts exclude small businesse because structurally they do not have the same powerful impact on the economy that large concentrated institutions have.

Consumer and small business have similar impact on the economy."Small businesses and consumers have similar buying power. They buy goods in similar quantity and for similar prices. Because the small business world is primarily service oriented, the goods used to produce these services must be purchased by a business person acting in a consumer's role and interest. Both have similar spending patterns on consumable and durable goods. Although spending patterns vary according to type of economic activity performed, many small enterprises have expenditures similar to consumers for food, housing (rent), utilities, furniture, insurance, transportation, and recreation. The percent of a consumer's personal disposable income that these expenditures constitute are listed in the Consumer Expenditure Survey".[32]

Small business is a principal source of major innovations in the nation when compared with large business, universities and government laboratories.[33] Of the 11 million businesses in the United States, 10.8 million (98 percent) are categorized as small (having fewer than 500 employees)."[34] Businesses with fewer than 100 workers employ forty percent of the part- and full-time employees in the United States.[35] Small businesses employ six out of every ten people, and create a majority of the new jobs available.[36]

Other similar problems faced by consumers and small business include large tax burdens;[37] small businesses and consumers file bankruptcy for similar reasons;[38] both have difficulties obtaining affordable credit.[39] (In 1984, according to the Federal Reserve Board, interest rates on loans of more than $1,000,000 averaged 1.67 percent below prime rate, while interest rates on loans less than $25,000 averaged 3.00 percent above prime).[40] Small businesses and consumers have trouble obtaining affordable insurance.

The size, scope and impact of small businesses is similar to the size, scope and impact of a middle income consumer household. The shifts in the economy are creating new economic power for medium-sized and smaller institutions. Now is the time for the consumer movement to add the economic mistreatment of small

business to their agenda of consumer abuses to be stamped out.

In October 1994 the Montgomery County, Maryland, Office of Consumer Affairs began a pilot project to help small businesses resolve disputes similar to those they assist in resolving for consumers. "For example, the problems encountered by a consumer in purchasing a computer for home use are the same as those experienced by someone purchasing a computer for his or her business. There is no substantial difference in the advertising, sale, contract, or form of payment."[41] Hopefully, this is the beginning of a larger national effort.

Consumerism and the Transition to Post-Industrial Society

I suggested in that 1982 ACCI presentation that with the discrediting of supply side economics, politicians searching for new political currency would turn to what I called Demand Side Economics. I said that with the theory of Adam Smith, the trends observed by Toffler and the facts underpinning consumer and environmental activism all running in the same direction, "it does not take much to imagine a clever bright political demagogue or patriot stepping forward with a new economic theory called Demand Side Economics.

> "Demand Side Economics [grounding economic analysis in the end-user consumer] fits too nicely into the American heritage to be ignored much longer as a theory of political economics put forth by an ambitious politician. ...But put in place as an economic program, this idea and all that it implies had better have a serious economic content provided by serious scholars or it will be merely one more passing economic fad..."[42]

I believe that in Newt Gingrich we have the demagogue/patriot using the ideas I mentioned. He calls his program "The New Opportunity Society." In fact, in 1982 I was presented a draft of his early new opportunity program as an example of an intelligent congressman's recognition of consumerism. It seemed dangerously empty, shallow, and wide of the mark to me. But it excited many people of good will who thought it had the seeds of a sound program.

Gingrich quotes Toffler, mangles Jefferson and vacillates between reactionary yearning and radical futurism. Toffler says of Gingrich -- on the jacket of Window of Opportunity, Gingrich's 1984 book -- "One may violently differ with many of Congressman Gingrich's views while still admiring his intellect, originality, and future consciousness. At a time when both the Democrats and the Republicans are parties of nostalgia, this book can help stir an overdue debate about the issues of tomorrow."[43] The book itself -- the basis of Gingrich's controversial cassette/C-Span history course, and focus of a house ethics committee complaint for its imaginative financing scheme -- is a mish-mash of pseudo-facts, mangled myths and political nostrums brilliantly stirred into a brew designed to advance Mr. Speaker's towering political ambitions.

Garry Wills says, "Repeatedly Gingrich makes a favorite point, to show how important property is: 'Thomas Jefferson originally wrote life, liberty and the pursuit of property. But they (Congress?) decided happiness is a nicer word.' If his students heard that once they heard it a dozen times. But no one wrote 'the pursuit of property.' Lockeans of all sorts used the triad 'life, liberty and property.' Jefferson did not. His first draft, unaltered by Congress on this point, said 'the pursuit of happiness.'"

Wills continues, "There is not even a mythical antecedent for Gingrich's tale. He makes it up out of botched memories of the pre-Jeffersonian triad's existence. He tells people that Benjamin Franklin was a typical 'tinkering' American because he worked out the lighting rod before he framed a theory to explain it. But Franklin, a genius not 'typical' of anything, was a brilliant speculator who framed his theory of electricity and only performed the practical lightning experiment after others across the Atlantic had tested his views. (In his opening address as speaker, Gingrich told, in touching detail, the story of Franklin's stopping the Constitutional Convention's squabblings with a successful plea that they pray together. They never did so.)"[44]

Gingrich is using the new technologies the way Hitler, Churchill and Roosevelt used radio, as an intellectually neutral tool able to magnify personal presence and power for political purposes. In his freshman orientation for House Republicans Gingrich avidly laid out what he called the Jeffersonian model of a free society in a diagram of four "sectors" and a statement:

"1: American civilization and culture. The habits and practices of a free society.

"2: Civic responsibility, personal strength, doing your duty to society.

"3: Free markets, private property, the rule of law incentives, the pursuit of happiness, and entrepreneurship.

"4: Limited but effective government."

Gingrich says, "The leader's job is to draw upon each of the four sectors as appropriate and to weave them together into a synergistic whole. Only by seeing yourself as the leader of all four components can you truly draw on all the resources and strengths of a free society. By overemphasizing the role of government the Great Society experiment undermined the other three. Sometimes conservatives so ignore the role of limited government than they weaken the potential synergism. Economic conservatives often overate the importance of sector three while social conservatives prefer to focus on one and two."

Using this Jeffersonian context, Gingrich couches his revolution in end-user terms. "We must replace the welfare state," he said in his inaugural speech, "with the opportunity society. The balanced budget amendment is the right thing to do. But it does not in my mind have the moral urgency of coming to grips with what is happening to the poorest Americans." The Welfare State is bad because it is bad to those it is intended to help.

Taxpayers are not getting the value they deserve for the money they pay. Therefore taxes must be decreased and services, none of which do what they are supposed to, must be cut back. The Food and Drug Administration is depriving consumers of life saving drugs and harmless, possibly healthful vitamins. These and most of the other arguments of the Gingrich revolution tend to be end-user arguments.

Unfortunately, the detailed research necessary to give the arguments substance has not been done. Frequently the facts cited to support the arguments are partial, distorted or simply untrue. But this pseudo-knowledge fits the emerging world of interactive information technologies, globalized markets and decentralized economics the way the radio allowed mid-century leaders to magnify their personalities, whatever their characters.

Gingrich urges his freshmen colleagues to "Listen to your community. You have in your community people and institutions in all four sectors who are busy inventing the tools of the third wave information revolution, learning to compete in the world market and seeking to replace the failed welfare state with more effective approaches. Listen to them and learn from them. Offer to help them in each of your four roles as community leader. Then recruit them to help you lead by helping you develop the vision, strategies, projects and tactics you need to transform your community from the welfare state into an opportunity society for all your citizens."

Gingrich is playing a dangerous futures game brilliantly. He is poised to be the leader of his crowd whether they propel him to a prosperous future or drag him back to a regressive past. He may well be the ultimate pragmatist. He has seized hold of forces driving the country but has stepped aside from trying to control, or even strongly influence, their direction.

He does not denounce his gay sister, he proposed that the government give every poor child a computer (in mid-March he retracted this proposal under conservative pressure), and supports large government spending for aviation (in the past) and the space program (now). But the substance of the emerging society is out of his hands. Like the rest of us he is in the grip of the emerging forces, not in control of them; more likely to be shaped by than to shape the emerging world. Here is where a thorough-going consumer analysis can fill the gap.

In summarizing the implications of data collected by electronic check-out systems, Toffler says, "The moral and economic implications of all this have hardly been explored by business or by consumer advocates. (Those interested in organizing consumer power had better start thinking about all this quickly, before the systems have been laid in place.)"[45] The specific "all this" referred to is "data" on consumers from their purchases, but the need for consumerists to start thinking generally about their role now applies across the entire front of the emerging economy.

Ideas to Research

This history presents three areas that thoughtful, grounded research can explore with the likelihood of making a significant contribution to consumer theory, economic analysis and the workings of democracy.

First, there is much to be learned from detailing American consumer history. "The history of shopping," Colston Warne wrote in 1976 "is a significant field of inquiry. It is important that the origins of giant shopping centers be traced. We need to include in our history the role of sanitary standards, of weights and measures, of additives and preservatives, of advertising and of quality standards. We also need to include the impact of consumer testing organizations here and abroad and the development of governmental agencies for consumer protection."[46]

Second, if, as Naipaul suggests, the primary export of America today is the Hutcheson-Jefferson characterization of happi-ness, then serious effort should be made to understand just what "happiness" in that context means.

Over time, the Hutcheson definition of ethical -- "the action is best which accomplishes the greatest happiness for the greatest numbers..." -- became what Jeremy Bentham called the "greatest good for the greatest number."

This shift from the subjective, personal and relative notion of "happiness" to the more objective,

general and concrete notion of "good" may lie at the heart of some of our current social dislocation.

What Naipaul called "the beauty of the idea of the pursuit of happiness" becomes, if not ugly, then at least less inspiring as the "pursuit of good."

Replace "happiness" with "good" in the Naipaul quote and you lose the "elastic idea; ...[that] fits all men. ...implying a certain kind of society, a certain kind of awakened spirit... [that contains] So much ...in it; the idea of the individual, responsibility, choice, the life of the intellect, the idea of vocation and perfectibility and achievement. It is an immense idea. It cannot be reduced to a fixed system." Replace "happiness" with good and this energy, dynamism, spirit is lost.

A quotation from Gandhi posted outside his ashram in Ahmedabad, Gujarat, India reads, "I do not believe in the doctrine of the greatest good of the greatest number. It means in its nakedness that in order to achieve the supposed good of fifty-one percent, the interest of forty nine percent, may be, or rather should be sacrificed. It is a heartless doctrine and has done harm to humanity. The only real dignified human doctrine is the greatest good of all."

Gandhi, I think, would have more difficulty condemning the concept of happiness set forth by Naipaul that would, Naipaul said, be difficult for his Hindu parents to understand. The harsh solid nature of "good" does not lend itself to the spiritual enlivening of the more sensitive, fluid notion of happiness.

Learning through research how good came to replace happiness as a national goal might aid in helping the consumer interest take up its central position in the coming information society.

Third, exploring Smith's notion of the economic primacy of consumption would bear fruit. Smith's doctrine of labor value received extensive and "polemical," according to Lerner, attention down to the present day. By comparison, his notion that consumption is even more primary to the economy than labor has been overlooked. In part this may be due to the fact that Smith added the consumer ideas to the third edition of the Wealth of Nations in 1784, after he had been appointed to the Commissionership of Customs and also due in part to the fact that while he conceptualized "consumption," in the 1770's and 80's, the notion of "consumers" was not easy to differentiate from the apprentices, laborers, farmers, and others of the "common" class.

It is likely, though only good research can tell for sure, that the "consumer theory of value" suggested by Smith's "consumption" arguments was no less developed than his labor theory of value and that subsequent events, most notably the industrial revolution, caused 19th century analysis to focus on labor and not consumers to launch social reforms. A reexamination of industrial history from Smith's consumption viewpoint might reveal useful insights about current economic dislocations which until now have gone unnoticed.

For example, the labor/management split central to the social and economic strife of the past 150 years organizes the world quite differently from the consumer/producer symbiosis which has always been present but rarely analyzed. As the global economy moves into the 21st century, the role of consumption will take on greater visibility. Reexamining industrial history from the consumer point of view beginning with Smith's insistence on the primacy of consumption might enhance our understanding of fundamental economic forces.

This task will be made even richer if the effort seeks to integrate the insights from Smith's first and other great book, The Theory of Moral Sentiments, with those of the Wealth Of Nations. [8] It has been common for American analysts to see a contradiction between Smith's first and second books. However, Smith saw them as an integrated project and other economic thinkers -- most notably German -- have based much of their economic theory on the interconnection of the two books. Together they seem to place the individual, the family and the small enterprise at the heart of personal and social happiness.

Research on this possibility, in the context of a 21st century economy based on smaller enterprises and consumers using the market to shape the social agenda in their pursuit of happiness, might lead to insights that will help clarify some of our more intractable problems.

I believe that Colston Warne's deep belief that consumer rights and democratic society go hand in hand is an idea that needs further exploration. Failure to do the intellectual work now to ensure that the market works for the people will make sure that it works against them. In the name of Colston Warne we should not let that happen.

Endnotes

1. James S. Turner is a Partner in the Washington law firm of Swankin and Turner and author of The Chemical Feast: The Nader Report on The Food and Drug Administration, Grossman 1970. Some of the points in thi printed in the *Journal of Consumer Affairs*, Vol.29, No.2, Winter 1995.s lecture will appear in the upcoming Encyclopedia of the Future, Macmillan 1995. The lecture itself will be printed in the *Journal of Consumer Affairs*, Vol.29, No.2, Winer 1995.

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3. Ibid., p. 62.

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5. The Declaration of Independence of the Thirteen United States of America, July 4, 1776.

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Esther Peterson and the Consumer Movement

John Kenneth Galbraith, Harvard University[1]

We are meeting today to remember and to honor the life long work of one of our truly great citizens. That is Esther Peterson. Catherine Galbraith and I are especially pleased to be present; Esther has been our beloved friend and neighbor in Vermont for countless years. And more than that: she has also been our instructor on everything from the Utah of her childhood to her great days at the White House, at the United Nations, during a tour in private industry, much else. Thus the life of one of the most diversely useful persons of our time.

She has also, I note, been my special tutor on the consumer movement, on which I venture a word today. I repeat and emphasize the word *ven-ture*: my case is that of a friendly member of the congregation -- a little as though on religion a Catholic or a hardshell Baptist were addressing a solemn assembly of the Church of Latter Day Saints into which Esther so notably was born.

The situation of the consumer into which Esther Peterson ventured a half century back and more was very different from what we know today. That difference, in no small measure, was made by Esther and her co-workers and, on occasion no doubt, her co-conspirators. This early world was one of great and greatly uninhibited producer power to which the consuming public was held hostage by a narrow and pressing living standard. On the one hand, there were the monopolists and the duopolists and the other exercises of producer power; on the other, a population pressed by urgent, even desperate need. If people have little choice as to what they buy -- if they are compelled in their purchases by need -- then there is an evident opportunity for their exploitation, exploitation both as to price and as to quality or reliability of product.

It was this situation -- this maldistribution of power -- which brought the consumer movement into being. Against the economic power of the producer, the organized and informed power of the consumer. This was the initiative of Esther and her colleagues. It extended on to the winning of government action and support -- the enforcement of the earlier classical initiatives, the Sherman Act and the Federal Trade Commission and Clayton Acts. This, to repeat, was the early manifestation of the consumer movement. It won widespread public and professional support; nothing was once more central to liberal and consumer thought than the effective enforcement of the antitrust laws. To this was added the consumer cooperative -- the obvious design for countering producer power with consumer power. And, further, there was the important, even decisive effort to inform consumers as to their interest and as to the manner in which that interest was invaded, abused. Given such manipulation as a common feature of economic life, there was urgent need for information on, celebration of, all available exceptions to what too often was the rule.

This was the consumer movement as I first knew it. Here was the world that Esther Peterson and her co-workers addressed. Here also are the initiatives that endure. But much has changed.

The most important change, without question, is the increased well being -- the affluence -- of the public or a large part thereof. The counterpart of this is a wider range of goods and services, more alternatives and a greater freedom of choice. Adverse producer power on one product may mean, merely, a freedom to turn to another. There is a less desperate dependence on essentials. One can exploit a poor population; it is much more difficult to exploit an affluent population.

Contributing to the decline in producer power has been the increasing internationalization of economic life. The American producer alone or in tacit agreement with a few others was once a powerful market force. Now such power invites the competition of products from Japan, China, the other Pacific countries, Europe and beyond. This too has had a notable consumer reward.

And with all this has come the institutional change -- especially the rise of the powerful retail firms acting in no small part as a countervailing power to the producer interest. These are not without a tendency to misinform. Consumer attention and education are here still necessary. But their role cannot be doubted. The consumer cooperative in recent times has slipped into the background. There should be no doubt as to why; no co-op can fully expect to compete with Walmart. That these establishments have power against producer interest none can doubt. They need consumer attention, I repeat. But their service to consumer interest is also clear.

I do not suggest that producer power has disappeared. In some products, a significant case being prescription drugs, it is still painfully present. And there are others. Nonetheless the broad trend is recognizable. One evident aspect is the with-drawal of the antitrust laws from the economic scene. Something was owing here to the proproducer instincts of Mr. Reagan and Mr. Bush. More must be attributed to a new world that has given to the consumer both institutional protection and the affluent range of choice.

A central aspect of modern consumer well being is the enormous development of advertising and the advertising industry. People who are compelled by privation in their purchases cannot be told what to buy. That is determined by the hard pressures of need -- need for food, clothing, shelter. Advertising comes when people are released from hard compulsion and allowed freedom of choice. The greater that freedom of choice, the greater the persuasive effort and expenditure that follow.

There comes with this change the important matter of truth in advertising. Some will argue that this now has a diminished role. Once there was need to protect those caught in the vice of harsh necessity. That necessity having given way to persuadable choice, the basic situation of the consumer is less pressing. The natural result of freedom of choice is freedom to be bilked.

I confess that on reading some literature offering consumer guidance I am not greatly moved by the discussion of the relative merits of Cadillacs and Mercedes Benz. Those who can afford these products and quite a few others should be allowed their sovereign right to suffer. Nevertheless there is inherent value in truth. And there are still people of low or moderate income who are in need of guidance.

There are also personally and socially damaging effects to be watched and presented -- from defective toys to defective automobiles to cigarettes to the medicinal drugs I have mentioned. The good society must be alert to such potential for damage and death. There must be organization to ensure information and restraining govern-ment action. Nor, a matter of immediate concern, should there be restraint on legal process to protect from producer error or public misinformation.

Also consumer action, if it becomes less important for the affluent, remains of immediate urgency for the poor -- for those who do not enjoy the broad protection from exploitation that income and choice accord. This strongly suggests a new direction which, I now urge, the consumer movement must take. That is to lessen the constraint that poverty now enforces on consumption. Nothing now so restricts consumption as mass impoverishment. Nothing so defames our body politic. And nothing is now more under attack than the safety nets that protect the poorest of our people -- pro ect, however modestly, their position as consumers. Let the consumer movement speak strongly and effectively for those who are unable to consume.

So I conclude. The context of the consumer movement has changed in my lifetime and in that of our beloved Esther Peterson. A goodly part of that change -- the heightened awareness of consumers, their greater protection from mistruth and defective and hurtful products -- has resulted from the efforts of Esther and those with whom she has worked and whom she has guided and led. But there has also been change -- the easing of constraints -- because of greater well being and thus a greater range of choice. And because of institutional change that has effectively aided the consumer. There remains the need for the knowledge that allows intelligent and rewarding consumer choice, and not less in an age of mass consumer persuasion. And there is the need for public protection made more urgent by the attack now being launched by special interests against government, great and small. And I repeat once more: there is no consumer problem so important as that of the people in our polity and democracy who do not have the wherewithal to consume.

Endnote

1. Paul M. Warburg Professor Emeritus, Department of Economics

American Council on Consumer Interests
The Public's Right to Government Information

Maureen P. English, Federal Reserve Board[1]

* Views expressed here are those of the speaker and in no way reflect the views of the Federal Reserve Board

Introduction

The government is the holder of significant amounts of information. While a good deal of it is shared with the public, much of it is not. Even with information that is made available to the public, the vast majority of it probably isn't available in a way that is easily accessible or understandable by consumers. Numerous public policy issues are involved in this area, even though the matter may seem pretty direct; but the policy issues are there--and they pose stumbling blocks. For example:

- How should data be given out? Should it be provided in hard copy? Should it be available electronically? Should it be provided via a telephone recording whenever possible?

- In what format should information be provided? Should data be provided in its raw state? Should value be added to it? Should efforts be made to try to figure out how data would be most useful to the public? And if so, how do we do that?

- Who is the public? Who decides who is entitled to information and who is not--and what standards are used to decide? Given that individuals' needs can be quite different, should information be packaged so that anyone and everyone is assured of being able to digest and use the information? Is this feasible?

- Should the government charge for information? A basic but critical question is whether the government should charge for its product--i.e., information--or whether it has a responsibility to make it available for free. If it is appropriate for the government to charge, should it charge a public interest group or an academic institution the same amount as Chemical Bank or Proctor and Gamble? Some argue that charging can be chilling; that it can stop members of the public from asking for the information and put empowering information out of the reach of consumers.

And once you are past the policy issues, logistical issues--which oftentimes are difficult to accommodate--come into play. Does payment have to be made in advance; and if it does, will that pose disruptive delays on the public's ability to obtain data? If billing rather than advance payment is the right course, do government agencies have billing systems in place or will they need to be developed?

Why Information Is Important

What we have all heard and what we all know is that information is power. Information is what gives consumers at least a fighting chance in this day and age to make responsible, reasonable decisions that are good for them and for those who depend on them--such as their children or their parents.

We're living in a wild time; we're living in a time when we have no time for ourselves, little time for our children and loved ones. And in those cases where there are two- parent households, we often have two parents working. They've made decisions all day at work; they've had to think, and weigh, and worry; they're probably in an office or other work environment that is understaffed, so they're pushed all day. And then they get home, and instead of Ozzie and Harriett, we have... you know what we have! It sure isn't calm, cool and collected Ozzie and Harriett.

Granted that the decision about what to have for dinner is probably not critical; but the decision a consumer has to face about a new car--a decision one often doesn't have time to deal with--is critical. It's an expensive proposition. Lord knows, you want to know if a car is reliable. You want to know if it's safe. You want to know if the monthly payment is going to cost you more

than your first mortgage payment--which at the time you thought was all the money in the world!

So, you say: "Call the Center for Auto Safety. Get your hands on that wonderful consumer magazine that rates all the cars; or that wonderful book that digests the government information on reliability, maintenance, safety." "What's the big deal?" you ask.

Well, the big deal is that you're informed; and that most people aren't. The big deal is that you're probably one of the most savvy groups in the world when it comes to consumer issues. The big deal is that you're probably like me--you don't buy a can of chicken soup without reading the label to find out what's in it, reading the cost information to find out exactly how much that soup costs per ounce. In fact, you probably carry around the Consumer Reports article that tells you how many pieces of carrot are in that chicken soup. But you and I are weird. We take two hours to buy three items in the grocery store. Did you ever notice that everyone else in the store is flying down the aisles, grabbing anything that's convenient, rushing madly into the check-out line ,and out the door? And you and I--well, we just moved from chicken soup to kidney beans--where we'll think a little more. After all, we know the government data on how many grams of protein are in those little beans, and exactly where they fall on the government-released food pyramid!

The Challenge of Providing Information Effectively

The government as the holder--and, hopefully, the provider of important information--should consider just how information can be effectively conveyed to the public, to the taxpayer. The government is often the one--through the Congress or through regulatory actions--that requires the private sector to provide information, and oftentimes to provide that information in very, very specific and detailed ways. But the ways in which the government has required the private sector to provide information haven't always been very effective for the average consumer. In fact, many would say that the government hasn't been very effective at all. Many would argue that consumers today are bombarded with too much information; that they can't possibly absorb it all--and so they absorb nothing at all. So often decisions are made without the benefit of information--information that exists and would be tremendously helpful if only we could find the right balance in providing information to consumers.

The concept that I know you've heard about is "information overload". We started to hear about this a good fifteen plus years ago. In the financial services area, we were told then--and we've never stopped being told--that regulators were requiring the private sector to provide consumers with tons of information about mortgage transactions, credit cards, lease arrangements--and that this information was too much, too complicated, too, too, too...

And I think they're right. I think it is too, too everything. And certainly if the government is also going to provide information to consumers (some would say that the government had better not shy away from providing information when they've required the private sector to do so), then the government should learn from the past. The government should do everything it can to provide information:

- that consumers will find useful to them--not what the government thinks is best for them to know;
- in ways that consumers regard as useful to them--not in ways the government thinks is best; and
- at the time in the decision-making process that consumers think is best for them--not when the government thinks it's the best time.

As more and more public debate occurs about the government's responsibility to release information to consumers--and the public is increasing its demands that government-held data be shared with them--it's critical that government agencies listen and respond--not only in a timely way, but in a useful way. Mounds of data dropped on the public accomplishes little if anything. We've seen that the amount of information provided in a mortgage transaction or in a refinancing can be staggering.

And when was the last time you enjoyed a little light reading and read your credit card agreement or the back of your monthly bill? Since I wrote a lot of those regulations I'd like you to say that you find it some of the best reading ever! But I know that's not true--even though when I was writing those regs I thought that it was some of the best stuff in the world. I was a lot younger then, and now I know the truth!

Consumers do have a right to information--whether it's information from the private sector like what the terms are of a credit card plan or a mortgage, or why a consumer was turned down for credit--or whether it's information from the government like where your neighborhood bank is making its loans and where it's not, or what the safety records are of automobiles, or pharmaceuticals, or toys, or businesses. But consumers

have a right to that information in a way that can be understood and absorbed. And where the government is the provider of information--like safety records or financial institutions' lending records--serious, serious thought has to be given as to how to make the data available to the public easily and at a reasonable cost, and how to make the public aware that that data is available to them.

The Solomon's Conferences

Over the past several years, representatives from both the government and the private sector have met to discuss the policy issues involved in making government data available to the public. These meetings have become known as the "Solomon's Conferences"; the fifth conference was held last fall.

When these conferences first began, only government agencies were represented. Over the years, private sector representatives were invited to participate--a clear indication that public access issues cannot and should not be solved or addressed solely by the government. The important role of private sector intermediaries--bridges between the government and the consuming public--is evident from the inclusion of private sector groups in the Solomon's discussions.

Agencies across the federal government are struggling with the issues relating to public access to government information. The conferences have provided long overdue forums for bringing into focus the issues and problems that present stumbling blocks to getting information into the public's hands. And maybe even more importantly, the conferences have provided participants with a way to formulate, share and discuss ideas about solutions.

The Solomon's Conferences evidence the importance being placed on the public access area. Through discussions at the conferences it has become clear that electronic access to data is not the answer for everyone. Portions of the general public want hard copy; they don't have computer capability available to them, and they don't have the training to use data in an automated format. While the big news is the information superhighway and automated access, it's just not for everyone. Public access to government information simply is not a "one size fits all" proposition.

Through discussions at the Solomon's Conferences we know that the packaging of information is a critical step in making data usable. And we know that the government cannot take on the responsibility of doing all that packaging itself. Here's where the private sector can often step in and make things happen. Certainly, the government has to step up to the plate and identify the information it has that could be useful to the public; and it has to have the foresight to involve the private sector in getting that data out and into the public's hands.

Through the discussions at the Solomon's Conferences, we also know that finding out from the public what they want to know, what will be useful to them, and how they want to know it are all critical to being truly responsive to the public's needs and the public's right to know. And the public interest groups are out there to work with the government agencies in honing in on the real needs of the public and helping the agencies formulate effective plans to get information out. Those public interest groups participated in the Fifth Solomon's Conference. They may not have been included in the first of the conferences, but they're included now--and that in and of itself is progress--significant progress--in my opinion.

The Home Mortgage Disclosure Act: A Classic Public Disclosure Law

Let me give you an example of something we've been struggling with at the Fed.

There's a federal law that was passed in the late 1970s called the Home Mortgage Disclosure Act. In a nutshell, it requires mortgage lenders to report to their regulators where and to whom they make their mortgage and home improvement loans. It doesn't require that applicants for credit be identified by name, but rather that they be identified by income, gender, race and national origin.

This law is a classic public disclosure law. It says to lenders: you report to the government who you made loans to and to whom you didn't. The law's purpose is to see if lenders are ignoring certain areas in making loans--a practice called "redlining". That term refers to a practice in which lenders would draw red circles around areas of city maps where they didn't want to make loans. The idea of the Home Mortgage Disclosure Act is to see what the demographics look like in areas where lenders are and are not lending.

And it's a classic public disclosure law because the law says to the regulators: "Now after you've collected all this data, summarize it and make it available to the public." And the law also says: "Make it available all over the country in centralized places." So what we do is send the information to libraries, county housing offices, and similar types of places that are then designated as "central depositories" under the law.

Think about this: The government requires a lender to report several pieces of information--race, gender, income--about every mortgage applicant--

whether they're approved or denied. That's a lot of information! As a matter of fact--and some of you may have already heard this--if you print out all the information, it's a stack of paper as high as the Washington Monument.

Anyway, the Fed on behalf of the other banking regulators assembles summary reports about this data and furnishes these central locations around the country with reports about the lenders that are doing business in their areas. The idea is that the public can come into these, hopefully, convenient locations, and look through the reports and see exactly where the lenders in their area are making their loans. And, according to the law, if the public doesn't like what they see, they can "protest" when a lender applies to acquire or merge with another institution. And since this information is public, it can be obtained by academics or newspapers or community organizations who may be very interested in seeing the lending records of particular lenders in their communities.

Is Less More?

Well, this is all fine in theory. But I can tell you that this is hard data to get through. And how does the world, the public, even know it's there to be looked at? And what happens if the person before them dropped the pages on the floor and they got out of order? Or walked off with some of the pages. You get the idea! The regulators have been faced with distributing paper--as high as the Washington Monument--all over the country hoping that the pages stay in order and that all the employees of the local libraries know where it's kept and don't inadvertently throw it away! If you saw all these stacks of computer print-out with all these little numbers on them, would you know what to do with them?

This really is very interesting information when you think about it. You can tell whether your local bank is making loans in its community, and the income levels and race of those receiving loans and those not receiving loans. But it's only useful information if the public knows it exists and if it's in a form that can be handled--pages flying all over a room doesn't cut it--and if it's easily understandable. So we're looking hard at ways to provide the public with this information in easier to use, easier-to-understand ways. As a matter of fact, this data is now being distributed on CD-ROM--a significant improvement for those who can take advantage of this capability.

This information--like any information reported to the government that would be useful to the public--has to be kept simple in order to be used by the average consumer. And there's no doubt about it that keeping things simple is a real challenge! For example, environmental data, air quality data, car safety data, or data about pharmaceuticals that's reported to the government can't just be given to the public in its raw form only. Although researchers may find data useful in that format, the average consumer just can't.

Where Does the Government's Responsibility End?

So the government has to look at how they can add value to the information--how they can offer an information product that provides information usefully and effectively. And they have to become marketers--something the government is not. They have to advertise their product. They have to get the word out that they have information to share--and they had better make sure that they have a good product! But there's a difference with the government. As I mentioned earlier, unlike private citizens in business, the government has to decide whether they should make the information available for free, or whether they should charge for it. The government has to deal with the issue of how much they should subsidize this process. And the government has to come to grips with issues such as the way the information is offered to the public--in paper, electronically, by recording, etc. Government agencies have to decide whether they should rely on the private sector to take the raw data, the raw information, and digest it, package it, and sell it for public consumption.

Conclusion

Information allows consumers to make deals, to negotiate effectively, to know the score. Information allows consumers to get into the mainstream. These are tough public policy issues we're facing. But tough doesn't mean give up. And that's a temptation--to just say: "Too many issues; we can't possibly deal with this." In my mind, tough means "Buckle down; get the job done." And I think that's exactly how you can be of help. You're experts. Through your experience and your research, you'll be able to advise us; you'll be able to give us ideas on just how we can get the job done.

Government regulators and you, the experts, all need to step up to the plate. Maybe we haven't delivered as yet; but I'm confident that we will.

Endnote

1. Assistant Director, Division of Consumer and Community Affairs

Partnerships in Fighting Consumer Fraud

This is a summary of the panel discussion on building partnerships to fight consumer fraud. Ideas from local, state, national, and international perspective were presented.

Connie Armstrong, Southern Illinois University [1]
Betsy Cantrell, National Sheriff's Association[2]
Betty Lipshutz, Georgia's Governor's Office of Consumer Affairs[3]
Miriam de Almeida Souza, Supreme Court of the State of Bahia, Brazil[4]
Lawrence H. Norton, Federal Trade Commission[5]

Introduction

Fraud..., Peter Yin (1985) calls it theft by deceit. A person unwittingly gives a another person money and/or possessions under false impressions. Fraud can be disastrous at any age but for our elderly citizens it can be more so. Not only does the crime affect them financially but physically as well.

Life savings could be lost, with little or no chance to earn a second nest egg. The elderly person because of fear and embarrassment, becomes less active in the community at large. They become more dependent on others for care and many demand more in services such as meals on wheels or home health care.

Anyone, of any age, can be a victim of fraud. Who among us has not received a "you have won" card or letter? Or has never been tempted to visit a vacation resort to pick up our "guaranteed" prize? Some frauds are directed to victims at certain stages of the life cycle. Want ads for jobs, educational schools / programs and weight control programs are prolific with scams to attract young adults. Skin creams and other fountain of youth-products as well as get-rich schemes are aimed for middle age persons. Elderly persons are targeted for investment scams. Elderly persons are also caught up in emotional appeals to contribute to charities, etc. While anyone of any age can be victims of fraudulent schemes or fraud, the elderly are more often the mark. They are available in greater numbers than ever before, accessible, accommodating, and they have assets. Their ability to negotiate the increasing complex traditional marketplace becomes more difficult with increasing age. Historically, our elders do not report to law enforcement when they are victims of fraud. So accurate numbers of victiminization is difficult, if not impossible to obtain.

Our behavior in questionable consumer situations are reflections of what I call life perspectives: We are good people and deserve good things to happen to us. We shouldn't look a gift horse in the mouth or question authority. And, because we are good people, we do good things. How strongly we believe in these concepts dictates our acceptance of the deceit used by the con artist. For example, the "bank examiner" that convinces a trusted, good customer to allow their account to be used to catch the "bad guys." Or, a person is told that this is their lucky day, money left in a forgotten account is coming his/her way after a small handling fee is paid. Or, a "charity" that appeals to your good nature to take care of the less fortunate, the sick, homeless, abused animals, etc., without stating how much of the dollar actually goes to the charity.

The problem is not just a statewide problem, but is becoming world-wide as our population shifts and more elderly persons are becoming dependent on the younger generation. Interdisciplinary, educational programs are needed. But before these programs can be instituted some basic social issues must be addressed. Our panelist from Brazil, Miriam de Almeida Souza, identifies these concerns in her country. But can we say that all our American senior citizens have all of their basic needs met? Can we imagine a marketplace where the consumers have little input into consumer policy and regulations?

Betty Lipshutz provides us with examples of how the State of Georgia has created an Elder Consumer Abuse Program. It exemplifies how networks of agencies can be formed to attack the many forms of abuse to which our elders are exposed.

An example of a law enforcement partnership, TRIAD, formed at the national and state levels, is described by Betty Cantrell of the National Sheriff's Association. Local police departments, under TRIAD's guidance are finding creative ways to tackle consumer fraud.

Larry Norton, representing the Federal Trade Commission, reports on one of our largest government agencies' efforts to regulate those arenas in the marketplace where fraud is most likely to occur.

TRIAD Concept: An Approach that Works

Triad is a cooperative approach to reduce crimes against older persons. Law enforcement leaders within a county and senior leadership agree to work together to fight crime and unwarranted fear of crime throughout the county. They involve seniors and those who work with seniors in the process, committing to a joint attack on problems facing older persons in the community.

The experts point out that the trauma of crimes against the elderly - generally the crimes of scams and fraud - is more serious than one might suspect and may lead to older persons becoming fearful, sometimes withdrawing to live behind locked doors.

The Triad concept is gaining in acceptance; there are about 150 programs in 39 states, plus Canada, as of this writing. Twenty-one states have signed statewide agreements (state sheriffs' and police chiefs' organizations, and state AARP signing a formal statement of cooperation) relating to Triad.

Triad leaders agree that an active local Triad can share the responsibility for crime-related problems, and also provide special assistance for older victims. A Triad enables older residents to participate more fully in solving problems in their communities.

Why is the Triad approach so important? The nation's older population is growing rapidly, some states experiencing a 30% increase in over-65 population during the decade of the 80's. The most rapidly growing segment of the population is the over-85 age group, which means there are more and more frail, vulnerable individuals. For every very old citizen, there are thousands of health, vigorous, experienced, self-sufficient persons who have time, energy, and ideas to apply to solutions to some of the crime-related issues.

The Louisiana Sheriff who organized the first local Triad in the nation, looked at the Triad strategy and noted, "There are many reasons why such a program, won't work, but there are 33,000,000 reasons why it must work," referring to the number of members of AARP.

To assist in organizing a successful Triad, most law enforcement leaders recommend involving an older person with leadership experience who can work closely with the law enforcement agencies. This individual may eventually lead a senior advisory council (sometimes called S.A.L.T. - Seniors and Lawmen Together) which surveys the senior population, serves as a channel of information and ideas, and assists in crime prevention education, victim assistance, and a myriad of other programs for the senior community.

Triad programs are tailored to meet the needs and concerns of each community. The emphasis of each Triad reflects the types of crime - or the need for law enforcement services for seniors in the area.

The first Triad was formed in St. Martin Parish, Louisiana, where one of the first initiatives was an Adopt a Senior program to see that older persons living alone received a weekly visit from a law enforcement officer. Seniors received telephone calls and a personal visit from "their" deputy. One deputy travels to an island in the Achafalaya Basin to visit "his" senior, whose home is a 45-minute boat ride from St. Martinville.

A renewed emphasis on crime prevention education and information for seniors is the focus for Triad activities in many counties where seminars are regularly scheduled, hosted by the county wide S.A.L.T. council.

Many S.A.L.T. councils undertake a survey of seniors in the county and county wide municipalities to determine the concerns of older residents. Then the Triad can focus on seniors' identified concerns as program elements are developed.

Telephone reassurance programs become Triad activities in many communities. Older persons, living alone, perhaps in poor health, lacking close family ties nearby, etc., sign up for a daily call from a Triad volunteer. This can be a time to impart information about a current fraud or scam - or, in some cases, even a lifesaver.

Triads are designed to assess the needs of the older population and, with community leaders working together, develop strategies to meet these needs. The concept is in action in nearly 70 counties / communities across the nation. To receive information about Triad or be added to the mailing list for the quarterly Triad newsletter, contact TRIAD at 1450 Duke Street, Alexandria, Virginia 22314; (703) 836-7827.

Georgia's Elder Consumer Abuse Program

In the 1994 legislative session, Lieutenant Governor Pierre Howard sponsored a broad package which was designed to protect older Georgians from many forms of abuse. As a result of this legislation, the Georgia Elder Consumer Abuse Program, better known as GECAP, was created with the Governor's Office of Consumer Affairs. In recent years, this Office has seen a tremendous increase in scams targeted specifically at older Georgians. They are perhaps the most vulnerable

group to suffer financial abuse as many live alone, have fixed incomes and lack necessary support systems. The primary scam directed at older Georgians is telemarketing fraud. Studies show that the older the age group, the more trusting they are in consumer transactions. This problem is exacerbated in the South where a generation was raised with a special emphasis on telephone etiquette.

GECAP, which became operational August 1, 1994, is presently directing its major investigative effort toward fraudulent telemarketers. The unit, comprised of three full-time and one temporary employee, has aggressively tried to establish a myriad of partnerships with many different groups and agencies. The chief investigator of this unit has a background in military and private law enforcement investigation, so he has been able to develop effective, cooperative partnerships with the FBI throughout the country as well as with many other city, county, and state law enforcement agencies. Police departments in small rural areas have been especially eager to work with us in many different ways with the goal of obtaining restitution for their older citizens who have been victimized by telemarketers located in Georgia. We have established effective partnerships with banking officials from all over the U.S. They sometimes alert us after noticing that one of their older customers has withdrawn a large sum of money from their account and after questioning them realize that they most likely have been targeted by a telemarketer. Many banks have been very helpful in promptly responding to our subpoenas by providing us with checking account information on suspicious telemarketers. The National Association of Attorneys General as well as the AG offices from many states not only help us by sharing information on principals, but have been a good source for sharing strategies on how to most effectively shut down these fraudulent operators. There is a library of audio tapes of telemarketers calling older citizens that some offices have shared with us when those particular telemarketers move into our state.

The Federal Trade Commission has also been a very helpful and effective partner. We exchange information with regional offices, as quite often the same principals are connected to numerous different telemarketing companies with locations that rapidly move from one city to another and from one coast to the other. Although our Office is not a subscriber to the FTC fraud data bank, they have been most generous in sharing information.

The networks that have been established within our state have been particularly valuable. Prior to the formation of the GECAP unit, we worked cooperatively with AARP, but that was one of our few ties to the older citizens in our state. Members of the GECAP unit have attended numerous conferences sponsored by various organizations and agencies in the state whose principal constituency is the older population. Members of our unit have an opportunity to explain our programs as participants in the conference proceedings and also to develop one on one relationships with this community. As a result of all the contacts that have been established, the Area Agencies on Aging, the Council on Elder Abuse, community care and home health workers have all been contacting us when they find Georgia seniors that have lost money to telemarketers. The Area Agencies on Aging Information & Referral Service in several states have even gone out and interviewed seniors who are victims of Georgia telemarketers and provided us with affidavits that we can use in court.

We believe that proactive consumer education is a vital component in preventing elder financial abuse. Our Lieutenant Governor has temporarily assigned to our GECAP unit a member of his staff who has close connections with many grassroots aging centers and groups. This person speaks to a least ten different groups a week using actual telemarketing solicitations that have been taped to educate this constituency so they will not become victims of telemarketing fraud. We have used our aging and law enforcement networks statewide to help us in distributing consumer education materials as well as a specially designed GECAP poster.

The Case of Brazil

Consumer fraud has been widespread in Brazil, and its prevention, in contrast to its repression, is a task still to be seriously undertaken by Brazilian laws and policy. No current cataloging of the relative incidence of certain types of fraud is available, but two examples may suffice. With the recent influx of imported cars, it is not unusual for models to be sold without the requisite parts and technical support, a fact unknown or misrepresented to the customer at time of sale. The law has also annulled the frequent allegations of health insurance companies, when called upon to pay a claim, that the condition invoked by the policyholder was pre-existent to purchase of the policy and therefore not covered.

Problems of fighting consumer fraud in Brazil must be understood in a broader socio-political context. Partly as a legacy of over three hundred years of Portuguese colonization, 1500-1822, Brazil has developed a paternalistic, centralizing, and top-down political style, often authoritarian and with a large role for the State in national life and the economy. Clientelism and alternations between democracy and dictatorship in this century have inhibited development of a freely

participative, grass-roots organizational style such as that of the United States. Although Brazil is now the fifth most populous country in the world, with the tenth largest economy, according to the World Bank it suffers from the most unequal income distribution of any nation in the world. The 1994 per-capita GNP of $3140 is about 12% that in the U.S. Uneven development characterizes the economy; we are seventh in the world in steel production, but a majority of the population still lacks basic medical care. The military dictatorship of 1964-1985 occurred precisely as consumerism was sweeping the Western world, and Brazil was preoccupied with the struggle to end authoritarian rule, erase its legacy, and reestablish civil society and non-governmental organizations under a democratic regime.

In consonance with United Nations Resolution 39/248 of April 10, 1985 on the defense of the consumer, the Brazilian Constitution of 1988, the first since the military dictatorship, establishes in its general statement on basic rights, in Article 5, Section 32, that "the State will promote, in the form of law, the defense of the consumer." The National Congress, in pursuance of this provision and as part of the democratization and modernization trends of free enterprise then prevalent in the government, passed Law 8,078, of September 11, 1990, the Consumer Defense Code, heavily patterned after standard international practice.

For this Code to become truly effective against consumer fraud and for any system of partnerships to be developed, several principal obstacles must be overcome.

1. The average educational level of the population is insufficient to take full advantage of the law and the informational provisions it mandates, or to provide necessary feedback to authorities.

2. The skewed and inequitable distribution of income causes the majority of the population to live in a precarious economic situation, unable to concern themselves with quality and safety considerations regarding the relatively few products to which they actually have access.

3. The predominance over the years of an unrestrained capitalism with few social safeguards and in oligopolistic conditions has facilitated a culture of the pursuit of profits without social responsibilities, on the part of national or foreign capital.

4. In general, civic spirit is weak in the country, regarding citizenship and mutual responsibilities, while the population has shown acquiescence and passivity in consumption patterns, without claiming its rights in a consistent and efficacious manner.

5. The Brazilian State has been paternalistic and a captive of elite interests, demonstrating irresponsibility in its duty of advancing the quality of life of the governed as a whole and the protection of the most vulnerable.

6. The adoption of a federal system of government, but with centralizing characteristics in Brasilia and little cooperation among states and localities, or public-private partnerships, has distanced the consumer-citizen from input into and oversight of the real decision-making systems. The 1990 Consumer Defense Code, for example originated in national government circles, not from citizen pressures or lobbying. We never had a Ralph Nader type of figure, and few states and localities have laws against consumer fraud.

7. Many consumer law cases in Brazil have historically been handled by special courts and resolved in isolation in our code law system, often as small claims matters of little importance, inhibiting the development of a coherent sense of consumer policy or a fully developed concept of consumer law per se among jurists and legislators.

8. Consumer protection has been understood principally in the context of prices, availability, and the fight against inflation, in the enforcement of business compliance with prices set by government agencies, rather than concerning fraud, quality, safety, and warranties as in developed countries.

9. Lack of a free internal or external market for many years, as a consequence of government regulation, allowed State corporations and private oligopolies to produce with a guaranteed market without contending with serious competition, a vigorous consumerist movement, or a consumer protection law during decades of industrialization. Consumer rights, the quality, price, and safety of products, and our international technological competiveness have all suffered from such isolation.

One of the key measures to counteract these negative conditions regarding prevention of consumer fraud is a broad program of consumer education at all levels, starting even in kindergarten. This would involve continuing community education through popular literature, newspapers, and laws themselves, television spots, cartoons and comic books for children, the TV drama series (novelas) so broadly popular in Brazil and so influential in shaping public opinion, youth debates on consumer issues, public displays on consumer fraud, and, in general, the spreading into the culture of the idea of producer responsibility for products and services.

Remember that the matter of the consumer in Brazil, just a decade free of 21 years of military dictatorship, has to do with the re-organization of a disarticulated society whose normal leadership ranks and civic participation were repressed by the military regime. The term "empowerment", so common in the United States, still remains to be integrated into Brazilian language and practice. Thus, for us, to organize the consumers to prevent the fraud practiced against them is a matter intimately linked to the organization of society itself, of the economy, or politics, of household economies, of the balancing of the production/sales/consumption relationship, in the perfecting of democratic institutions that should be based on the larger principles of ethics and social responsibility among individuals, with the State, and among countries. Creating community awareness through education at different levels should not be a task of the government agencies alone, because the State should not make the consumer into a client. The State is also a suspect in collusion.

As Brazil integrates more fully into the interdependent world economy of the 1990s, including integration into the Mercosul common market, its emerging and vulnerable consumer policy faces the challenges of adapting to rapid global economic changes, increasing foreign investment, observance of sustainable development, greater democratization and administrative decentralization, and incorporation of the consumer as an element in the dialogues and negotiations previously reserved for management and labor. We consumer advocates in Brazil would do well to learn from partnerships successful elsewhere to promote tendencies of conciliation rather than confrontation among the forces of production, the consumer, and the public authorities.

Activities at the FTC

(These remarks reflect my own views, and do not necessarily reflect the views of the Federal Trade Commission or any one of its members.)

The Federal Trade Commission is the only agency with authority to enforce a variety of federal antitrust and consumer protection laws. The Commission seeks to improve the operation of the marketplace by eliminating unfair and deceptive practices, especially practices that may unreasonably restrict or inhibit the free exercise of informed choice by consumers. Through law enforcement actions, the Commission obtains remedies for consumers that are national in scope.

Cooperative efforts with state and local law enforcement authorities now characterize nearly every facet of the Federal Trade Commission's work. Indeed, these efforts are critical to effective law enforcement. Let me illustrate with just one example. In recent years, local crackdowns on fraudulent telemarketing have led to many successful prosecutions; however, those perpetrators who evade prosecution often migrate to other jurisdictions where there had been little telemarketing fraud in the past. This problem is being attacked in at least three ways: strike forces have formed in regions all over the country comprised of federal, state, and local officials; a common database tracking telemarketing scams is widely used; and joint prosecutions are flourishing. In all areas of consumer protection, the Commission routinely exchanges information with state officials, engaging in joint investigations and law enforcement actions, and coordinates efforts in consumer education.

One significant development where information-sharing has dramatically enhanced consumer protection is a telemarketing fraud database developed by the Federal Trade Commission, in conjunction with the National Association of Attorneys General ("NAAG"). This database is an electronic system for sharing consumer complaints received nationwide. The database allows law enforcement officials at every level to spot trends in law violations, to learn about ongoing investigations, and to identify prospective witnesses. Because fraudulent telemarketers are highly mobile--some folding tables, chairs and phones are all that's needed--officials can now identify scams and even individual salespersons who have abandoned one jurisdiction and opened for business in another. There are now 87 member organizations, including 42 state attorneys general, the Federal Bureau of Investigation, the Internal Revenue Service, and the Department of Justice.

There are many other ways the Commission is sharing information with other agencies involved in consumer protection. For example:

* Over the past few years, the Federal Trade Commission and NAAG have jointly sponsored numerous seminars and conferences. Special summit meetings have addressed advance fee

loan and credit repair scams. In December 1994, the Commission, NAAG, and the North American Securities Administrators Association ("NASAA") met together for the first time for a Franchise Summit, where representatives addressed regulation and enforcement of the sale of franchises and business opportunities.

* The Commission, NAAG, and the American Association of Retired Persons ("AARP") jointly produced an award-winning, multi-media campaign on telephone scams and older consumers.

* A library of audiotaped telemarketing scams has been established in San Diego, California by the San Diego Boilerroom Task Force and state attorney general. These tapes are available to all law enforcement officials and provide compelling evidence in prosecutions.

The commission has also teamed with state and local law enforcement authorities to conduct joint investigations and bring coordinated prosecutions. In combatting telemarketing fraud, virtually every case filed by the Commission relies on some respect on information or other support received from state and local officials. These are just a few recent examples of cooperative law enforcement:

* The Commission and 19 states worked together to resolve public concerns about the accuracy and privacy of TRW consumer reports. Commission staff and Assistant Attorneys General developed pleadings, devised negotiation strategies, and hammered out separate, but overlapping consumer agreements--one tracking state law violations, and the other federal. This cooperative effort produced an accelerated resolution of great benefit to consumers.

* The Commission, in conjunction with the New York and Texas Attorneys General, joined forces to challenge deceptive product claims in infomercials and "automatic" shipment plans where consumers received unordered merchandise and were billed for it. The result: a Commission order providing for injunctions and $3.5 million in consumer redress.

* The Commission and state officials together inspected more than 1000 dealerships across the country to assess compliance with the Commission's Used Car Rule, which requires certain disclosures in connection with used car sales. This effort led to 60 Commission cases and hundreds of state actions.

To be sure, a unique role still exists for federal and state consumer protection agencies. States may respond more quickly to address areas of predominantly local impact, such as campground or timeshare sales, debt collection, and auto repair. Commission action is more appropriate where consistent standards are important and the interests of consumers nationwide are at stake. For example, the Commission has taken the lead in prosecuting third-party support systems that allow telemarketers to operate. Nonetheless, federal/state cooperation should continue to enhance the goals of all law enforcement agencies and ultimately benefit the public.

Lastly, I wanted to address some of the Commission's activities in the international arena. The Commission is a member of the International Marketing Supervision Network ("IMSN"), a forum of consumer protection organizations founded in 1992. Member countries exchange information about unfair and deceptive marketing practices that cross international borders and about law enforcement problems common to its members' countries.

The members of IMSN are the principal law enforcement organizations handling unfair and deceptive marketing in each OECD country. In general, this includes all Western European nations, the United States, Canada, Australia, New Zealand, and Japan. Organizations from countries that have observer status at OECD, such as Hungary, Poland, and Mexico, are also members of IMSN.

The IMSN carries out its activities in at least four distinct ways: (1) semi-annual meetings in the home country of the Secretariat; (2) the Network Bulletin, a published newsletter containing articles about scams and law enforcement techniques, and a list of contact persons from each member country; (3) formal requests between members for assistance and information relating to particular law enforcement targets; and (4) informal contacts.

In this era of shrinking government resources and an increasingly global marketplace, leveraging resources and effective communication will remain critical in order to protect consumers. I anticipate the Commission will continue to forge partnerships at the local, state, federal, and international level.

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Endnotes

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Building Linkages in the Consumer Interest (Conference Wrap-up Summary)

The strength of the American Council on Consumer Interests and the consumer movement comes not from a mind set of competitive advantage. Rather, consumer affairs professionals and others benefit mutually when they forge linkages among consumer research, education, and policy focuses.

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The Issue

Through the years of rampant citizen unrest with the imbalance of power in the marketplace and the subsequent increase in regulatory action, the consumer movement gained great strength. Today, as many consumer affairs professionals have become comfortable in their jobs in consumer research, education, or policy analysis, many find themselves struggling for viability.

The 1995 ACCI Conference team (i.e., the authors of this summary) believes the answer to strengthening our work in the consumer interest lies in greatly improving connections with others involved in consumer research, education, or policy, particularly in the public and consumer interest sectors. An appropriate metaphor is three sticks, easily broken when separated, but stronger than their sum when held together.

The Response

This theme, "Linking Consumer Education, Policy, and Research," guided the planning for the 1995 ACCI Conference. A conference highlight, the ACCI Showcase, connected about 30 representatives from consumer organizations with ACCI membership. The informal session resulted in sharing information, strengthening linkages, and forging new partnerships. Joint sessions with Consumer Assembly 1995, a conference sponsored by the Consumer Federation of America, put ACCI academics and educators in the same room with grassroots consumer activists and nationally-known policy analysts. The team approach to planning demonstrated the synergy that results from a partnership mind set.

In ACCI and many of our employing organizations, we face a non-typical environment. Today's workplace is characterized by rightsizing, reinventing, reorganizing, and uncontrollable change. As a result, this is a time for bold new approaches, a time to revel in hidden opportunities--a time to "un-quo the status."

For example, for the consumer economics researcher, try putting yourself in the shoes of businesses, trade associations and public interest organizations when examining potential research questions. Ask, "What's relevant?" Then research the pertinent questions in a brief three months, not three years, because timeliness is often of the essence. After preparing a brief report with specific policy implications and sharing it with appropriate organizations, consider speaking out on the issue. Or, at the least, give the information to those who use it to change public policy.

What is required is that you take your favorite area of interest in consumer economics and narrow your focus to the policy questions that have or should be posed. Then ask yourself what kind of data would throw light on the problem areas that would point toward a solution. Ask yourself which leading corporations, trade associations, or consumer groups might fund such a study. Remember, too, that public policy is set by businesses and consumer groups, as well as governments.

And, write up consumer education articles, perhaps as "op ed" pieces, for your local newspapers and for a ACCI's "Advancing the Consumer Interest." Teachers use such articles as part of their lecture notes or as handouts. Textbooks authors include the materials in their books.

Three Charges for the Future

1995 ACCI conference participants are encouraged to:

1. Continue the networking established during the ACCI Showcase. Contact at least one organization represented and share your work.

2. Embrace the theme of "Linking Consumer Education, Policy and Research" by making it a foundation for your work for consumers.

3. Celebrate the wisdom, knowledge, and experience of others by including input from consumers, policy analysts, researchers, and educators in your next project.

Sharing a common vision for advancing the consumer interest is not enough. It is time for action. It is time for building bridges among consumer research, education, and policy.

Each is so intricately intertwined with the other that it is fruitless to do research without first asking policy makers about its relevance. It is futile to educate consumers without first analyzing consumer wants and needs. Moreover, it is inappropriate to recommend policy without researching its consequences and determining educational parallels.

As we move into the 21st century, "building linkages" is the new paradigm. As consumer economists, this will be the entree for us to not only survive but to thrive!

Endnotes

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Retirement Decisions: Are Women and Men Different?

Using the beta release of 1992 Health and Retirement Survey, this study examined the contributing factors to retirement decisions of male (N= 2072) and female workers (N=1545) age 55 and over. The results of logit analysis indicated that disability status, poor health, pension benefits, and age were positively related to retirement status while earned income, the number of children at home, the number of times laid-off previously, and a better working environment tend to delay the timing of retirement. Further, the effects of these variables varied depending on the gender of older workers.

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Introduction

The proportion of older persons in the population has increased in recent years as the elderly live longer. The 1990 census shows that 31.2 million people are at retirement age (65 years and over), and another 10.6 million near retirement age (60 to 64) (Bureau of the Census, 1994). An average of 1.3 million older workers retired each year between 1985 and 1990. The median age of retirement was about 63 for both men and women between 1985-1990 while it was 67 between 1950-1955. Retirement is one of the most important lifetime decisions and involves complex choices. Health, mandatory retirement, Social Security, private pensions, earnings and wealth are found to be major factors affecting retirement decisions (Ruhm, 1989). Most of the existing studies, however, focused on either white married male workers (Quinn, 1977) or male workers (Gordon & Blinder, 1980; Henretta, Chan, and O'Rand, 1992; Myers, 1991). Women have been neglected in retirement studies even though they are going to be a high-growth group among elderly population in the labor market during the next decade or so (Doeringer, 1990).

Almost 75% of women, compared with 94% of men, were in the labor force in 1993. Unlike women in the earlier years, the work experiences and earnings of baby-boom women more closely resemble thoses of men. Employed women were almost as likely to be in pension plans as employed men; 67% of women wage and salary workers age 25 or older are covered by pension plans while 69% of men are covered in 1991 (Mergenhagen, 1994).

Life expectancy of women exceeds that of men. Women are also more vulnerable than men to chronic illnesses (Longino, 1994) and high health care costs can be a financial burden to older women. Financial security is one of the areas of most concern for older women due to their longevity and possible health problems (Smeeding, 1990). Women, thus, may stay longer in the labor market than they wish because of financial needs.

Marital status of women may affect their retirement decisions since their decisions are likely tied to the retirement decision of their husbands, but not vice-versa (Mergenhagen, 1994). Family-related responsibility may also affect retirement decisions of women. Having more dependent children may discourage women from leaving the labor force since the women's earnings can be helpful to support children's education and other needs (Henretta & O'Rand, 1980). The presence of family members who need daily living assistance may force women to leave the work force because women are likely to be a primary caretaker at home.

Despite the differences in the labor market experiences, financial status, and family-related responsibility of men and women, we know too little about retirement decisions of older women. A few studies examined the retirement decisions of women whose work, health, and pension experiences tend to differ significantly from those of male workers (Honig, 1985; Pozzebon & Mitchell, 1989; Gohmann, 1990). Women were examined as a spouse of male workers (Honig, 1985; Pozzebon & Mitchell, 1989) or only single women (Gohmann, 1990) were examined. This study examines factors contributing to retirement decisions of older workers using the 1992 Health Retirement Survey. Male and female workers will be examined separately and contrasted to identify the differences in factors contributing to their retirement decisions.

Related Literature

Earnings and Wealth

Most studies documented that higher wages were associated with later retirement (Burkhauser, 1980; Burtless & Moffitt, 1985; Honoch & Honig, 1983; Mitchell & Fields, 1984; Myers, 1991; Quinn, 1977). Although these studies found different magnitudes of the wage effect, the importance of the wage effect was recognized consistently. Because of the difficulty in obtaining information on asset holdings, the impact of asset holdings on retirement has not been examined extensively. Burtless and Moffitt (1984), Honoch and Honig (1983), and Myers (1991) indicated that asset holdings and retirement ages are inversely related, although the effect was quite small. Quinn (1977) also reported that labor force participation of older workers decreased by 0.9% as asset income increased by $1,000. In other words, workers with a high level of non-labor income were found to retire earlier than those with low.

Health

The health status of older workers has been found to be one of the important factors in explaining retirement decisions. Health deteriorates as an individual becomes older. If it reaches the point that older workers can no longer work, they leave the work force. Burtless (1987) found that deterioration of health varies among occupations and industries. Men who reported poor health retired an average of 1.1 years earlier than those who reported average or above average health in Burtless's study (1986). Burkhauser (1980) found a 10 % decrease in the number of weeks worked during a year as a result of poor health. Using data of white-married male age 58-63, Quinn (1977) reported that health status is one of the important reasons for the early retirement decision. Those with a health limitation had a lower labor force participation rate than those who were healthy.

Private Pensions

Private pensions have become an important source of retirement income in the last decade. Studies found that pension systems encourage early retirement. Mitchell and Fields (1984) surveyed ten pension plans and found different retirement ages across the ten plans. The average retirement age was 63.7 and it ranged from 61.8 to 65.7. Pension incentives also varied depending on the length of service and age of retirement. Furthermore, they observed that a 10 % increase in pension wealth reduced average retirement age by one month. In a study examining retirement reasons and process, Henretta, Chan and O'Rand (1992) found that a pension encourages voluntary and compulsory retirement. Myers (1991), and Quinn (1977) also found a positive association between pension coverage and retirement.

Mandatory Retirement

Mandatory retirement provisions tend to force older workers to leave the labor market. They prevent employers from possible charges of discrimination, favoritism, or bias in the termination process (Schultz, 1992). A worker's productivity tends to fall after a given number of years of work but earning profiles often do not change. Employers might try to lay off workers selectively. This, however, imposes morale problems and age discrimination. Mandatory retirement rules set criterion for layoffs to avoid problems. To induce efficient retirement flows, employers institute mandatory retirement (Gustman, Mitchell, & Steinmier, 1994). The minimum age at which employers could impose mandatory retirement was recently eliminated for most workers. Labor statistics show that mandatory retirement rules have very little effect on retirement decisions (Ruhm, 1990).

Other Factors

Family-related factors have been receiving the least attention in retirement studies since data used in previous studies was obtained from employers. Marital status may affect the retirement decision, especially for women. Since women tend to be a secondary worker in the family and they tend to marry a man older than they are, a husband's retirement is likely to induce retirement of the wife. The number of dependent children may affect the timing of retirement. Retirement can be delayed because of parental responsibility for children. This might be especially true for men or women who are the head of household. Having either elderly parents or family members with illness may also affect the retirement decision, especially for women. In general, women are likely to be a caretaker when caregiving is needed at home. Women are also likely to be low wage-earners. Women's traditional caregiving role at home and low earnings in the labor market may encourage them to quit market employment.

Methods

The Model and hypotheses

Based on previous research, a model is developed to examine the major factors affecting worker's retirement decisions.

Work-related variables are whether they have participated in any pension plans or not (1=yes, 0=otherwise), number of times laid-off previously, and a

general work condition index reflecting respondents' satisfaction of the work environment (0=least satisfied, 9=most satisfied). When pension benefits are available, workers are provided with economic security after retirement, and they are expected to be more likely to retire. If a person has been laid-off before, he or she must be concerned with job security. Therefore, individuals who were laid-off may postpone retirement. The general work condition index is obtained along five dimensions using principal component analysis: whether the pay is fair, whether the pay is related to the work they have done, employer promotion preferences, whether co-workers pressure older workers, and whether the employer allows older workers to move to less demanding jobs. It is hypothesized that workers who are satisfied with working conditions are less likely to retire.

Table 1
Descriptive Statistics of the Variables

Variable	Total (n=3572)	Male (n=2027)	Female (n=1545)
Continuous variables' mean & S. D.			
#LAYOFF	0.57	0.70	0.40
	(2.81)	(3.56)	(1.27)
WORKCON	3.30	3.12	3.54
	(3.04)	(3.08)	(2.97)
SHEALTH	2.59	2.62	2.55
	(1.19)	(1.20)	(1.17)
PHEALTH	0.19	0.18	0.22
	(1.01)	(0.98)	(1.04)
EARNED	21,904	24,562	18,416
	(37,037)	(45,009)	(22,203)
UNEARENED	24,567	25,501	23,343
	(26,198)	(26,323)	(25,991)
#CHILDREN	0.17	0.02	0.37
	(0.50)	(0.22)	(0.67)
CAREGIVING	12.49	0.11	28.73
	(182.43)	(3.36)	(276.58)
AGE	59.19	59.96	58.17
	(3.72)	(4.27)	(2.49)
Categorical variables' frequency & %			
RETIRED	992	640	352
	(27.8)	(31.6)	(22.8)
PENSION	2008	1169	839
	(56.2)	(57.7)	(54.3)
DISABLED	325	210	115
	(9.1)	(10.4)	(7.4)
GENDER	2027	NA	NA
	(56.7)		
NAMARRIED	2731	1731	1000
	(76.5)	(85.4)	(64.7)

The second factor examined is the health conditions of the respondents, which include both the subjective and objective measures of health as well as the disability status of the respondent. Self-reported health is used as a subjective indication of the health status (1=poor 5=excellent). Number of days missing from work in the last 12 month because of health reasons was used to measure physical health. Disability status is measured by whether the respondents are disabled or not (1=yes, 0=otherwise). Disability limits productivity at the work place (Grossman & Benham, 1974) and it is hypothesized that disability status is positively related to retirement.

The economic factors include respondents' earned and unearned income. Earned income reflects respondent's market wage (including pay or salary, bonus or tips, professional income, and other earned income). Individuals with a higher wage may substitute consumption for leisure by postponing retirement. It is, therefore, hypothesized that a higher earned income will lead the respondent to stay in the labor force. Unearned income reflects family financial resources that are not contributed to by the respondent's earning power (i.e., spouse's earning, interest, property income, etc.). It is expected that workers with more unearned income are more likely to retire.

Family-related responsibilities are reflected by the number of children at home and care-giving to family members (number of hours spent helping parents or parents-in-law per year). The reason for choosing these two variables is that family members tend to have a very significant impact on a person's retirement decisions. If the respondent needs to spend a lot of time to care for family members such as parents or parents-in-laws, it might prevent him or her from participating in the labor force. Also, the concern for children's education and development may give the parents a great incentive to postpone their retirement. It is hypothesized that people who have to give care to their parents or parents-in-law are more likely to retire while those who have dependent children at home are less likely to retire.

The demographic factor includes age, marital status (1=married, 0=otherwise), and gender of the respondent (1=male, 0=female) for the total sample, age and marital status only for the male and female sub-samples. Age is certainly an important factor that workers would consider when making retirement decisions (Gordon & Blinder, 1980). It is hypothesized that as age increases, people are more likely to retire. The presence of a spouse can have a very significant impact on a person's retirement decision because the decision tends to be a joint decision in this case.

Table 2
Estimated Coefficients for Probability of Retirement by Older Male and Female Workers Age 55 and Over

Variables	Total (n=3572)	Male (n=2072)	Female (n=1545)
PENSION	2.05***	2.51***	1.63***
	(0.16)	(0.23)	(0.23)
#LAYOFF	-0.10**	-0.07	-0.35**
	(0.04)	(0.04)	(0.10)
WORKCON	-0.98***	-0.94***	-1.26***
	(0.05)	(0.06)	(0.17)
SHEALTH			
(poor)	0.73**	1.08**	0.24
	(0.28)	(0.38)	(0.42)
(fair)	0.45	0.62	0.19
	(0.27)	(0.36)	(0.41)
(good)	0.64*	0.83*	0.29
	(0.26)	(0.34)	(0.48)
(very good)	0.29	0.48	-0.01
	(0.26)	(0.35)	(0.39)
(excellent)	reference group		
PHEALTH	-0.10	-0.07	-0.18
	(0.16)	(0.15)	(0.27)
DISABLED	2.01***	1.97***	2.13***
	(0.22)	(0.29)	(0.36)
EARNED[a]	-0.01***	-0.02***	-0.005
	(0.003)	(0.004)	(0.004)
UNERNED[a]	-0.0004	-0.006	-0.0005
	(0.002)	(0.003)	(0.003)
#CHILDREN	-0.46***	-0.60	-0.53***
	(0.14)	(0.40)	(0.15)
CAREGIVING	-0.00	0.02	-0.00
	(0.00)	(0.01)	(0.00)
AGE	0.24***	0.24***	0.19***
	(0.02)	(0.02)	(0.04)
GENDER	-0.17	NA	NA
	(0.14)		
MARRIED	0.13	0.31	-0.05
	(0.16)	(0.25)	(0.23)
Intercept	9.81**	9.66***	7.70***
	(1.22)	(1.46)	(2.21)
Log-likelihood	-804.03	-444.00	-338.27

Note
a. in $1,000.
* p< 0.05 ** p<0.01 *** p<0.001

Descriptive statistics are presented in Table 1.

Data and Sample

The data are from beta release of the 1992 Health and Retirement Study (HRS) collected by the Survey Research Center of the University of Michigan in cooporation with federal agencies. The HRS survey follows a longitudinal design to provide useful information for researchers to study the economic and behavioral processes occurring at older ages. Detailed information on labor force participation, pensions, health conditions and health status, family structure, social support, and mobility, economic status, and demographic characteristics is presented for 12,656 individuals (Juster & Suzman, 1994). Because the focus of this study is to examine people's retirement decisions, only respondents who are older than 55 years old in 1992 are included, resulting in a total sample size of 3,570.

Analysis

Means and frequencies are first obtained to study the characteristics of the sample. Then, a logistic analysis is conducted to examine the probability of retirement (SAS Institute Inc.,1989).

Results and Discussion

The results of logit analysis are presented in Table 2. A pseudo-Chow test was performed to test whether significant differences exist between the dichotomized subsample models and the total sample model. The test indicates that using the dichotomized sample is more appropriate than using the total sample because the retirement decisions made by older male and female workers are different.

Consistent with the findings of the previous studies (Burkhauser, 1980; Burtless & Moffitt, 1984; Honoch & Honig, 1983; Quinn, 1977), earned income has a negative, but quite small, effect on the retirement of male workers and the total sample. Workers with higher earnings are likely to work longer years, holding other factors constant. Earnings, however, had no significant effect on retirement decisions of older women. This difference in wage effects may reflect the earning gap between male and female workers. Female workers may not have an incentive to substitute consumption for leisure since their average market wage is much lower than that of male workers. Consequently, female workers' earnings are not an important factor to be considered in the retirement decision.

Job stability is also found to be an important factor in explaining retirement decisions of older workers. For women and the total samples, those with a high number of lay offs are likely to postpone their retirement. Women are likely to work in low wage jobs that tend to be subject to lay off (Bayes, 1988). Low earning profiles of women and the lack of job stability may have contributed to a

woman's decision to delay retirement. Henretta et al (1992) also found that workers who had uninterrupted employment were likely to delay retirement.

Pension benefits, as a source of retirement income, encourage older workers to quit market employment. Workers who have pension coverage are likely to retire regardless of gender of the workers. These results are consistent with the findings of the studies by Gustmann and Steinmier (1984), Hanoch & Honig (1983), Mitchell and Fields (1984) and Myers (1991). However, Henretta and O'Rand (1980) found a negative effect of pension coverage on older women's labor force participation.

The disability status of older workers is positively associated with retirement status. Those who reported that their health status was either poor or good are also likely to be retired compared to those with fair, very good, or excellent health in the total and male samples, but not for the female sample. No previous study examined the influence of women's health on their retirement decision. The importance of health on retirement found in this study is consistent with the previous studies (Burkhauser, 1980; Burtless, 1986, 1987; Quinn, 1977).

The working environment is a significant factor affecting retirement decisions for all older workers. A better environment measured by the level of pressure for older workers to retire, fair pay, and age discrimination induce older workers to stay in the labor force longer regardless of gender.

Women with more dependent children under 18 are likely to stay in the labor force longer than those with fewer young children. Having more children indicates a greater need for income to meet children's needs in the family. The financial needs may lead women to stay in the work force. Henretta et al (1980, 1992) and Gustman and Steinmier (1984) also reported that no responsibility for children induces older male workers to leave the labor force. Female workers were not included in their studies. It is, however, noteworthy that the number of children had no effect on male worker's retirement decision in this study.

As expected, age of older workers has a positive effect on the likelihood of retirement. The studies by Burtless and Moffitt (1984) and Myers (1991) also found a positive relationship between age and retirement status. Since individuals are expected to make retirement decisions to maximize their lifetime utility, age must be a significant factor that needs to be considered along with other factors.

Conclusion

This study examined the contributing factors to retirement decisions of male and female workers age 55 and over. Disability status, pension coverage, working environment, and age are related to the retirement decisions of all workers. Health status and earned income have significant effects on male worker's decision to retire, but not females. The number of children at home and the number of times laid-off are related to female worker's retirement decision, but not males.

Overall, factors contributing to retirement identified by this study, disability status, pension coverage, and working environment, are consistent with previous studies. Although many previous studies (Burkhauser, 1980; Burtless & Moffitt, 1985; Honoch & Honig, 1983; Mitchell & Fields, 1984; Quinn, 1977; Burtless, 1986,1987) found that wages or earned income and health status are important retirement reasons, the results of this study suggest that these factors play a role in men's retirement decisions only. The factors contributing to women's retirement found by this study, the number of children at home and the number of times laid-off previously, are seldom reported in previous studies. This suggests that women's retirement decisions might be very different from those of men. Further studies on women's retirement are definitely needed.

Women's retirement decisions are not wage-sensitive, while men's are. This confirms that men are still the primary bread-earners and assume more of the economic responsibility than women in a family. A higher wage would induce them to stay in the labor force in order to get the economic benefit. For women, wage is less significant in making retirement decisions because they tend to be more influenced by non-economic factors such as children, spouse, or other family members. The results of this study suggest that the number of children at home significantly affect women's retirement decision. The reason might be that women still bear most of the responsibility of taking care of the children, both physically and economically. Therefore, it can be said that men are more economically-driven while women are more household-driven when making retirement decisions.

Health status, which was identified by some other studies (Burkhauser, 1980; Burtless, 1986, 1987) as an important factor in retirement decisions, is not significant in this study for women. The reason might lie in the different nature of men and women's illness. Men tend to have very serious health problems that may force them to leave the labor force, while women's illness tend to be chronic and are less likely to affect their working ability.

Women's retirement decisions are also sensitive to the number of times they were laid off before. This result suggests that the job characteristics for men and women may be different and men's job tend to be more stable than women's. Because of this difference in job nature, women tend to be more concerned with job security when making retirement decisions. Faced with uncertainties related to whether they want to re-enter the labor force, women are less likely to leave the job they currently have. For men, they are less concerned with this issue because they tend to re-enter the labor force easily.

These differences in factors affecting men and women's retirement decisions have implications for those who are making employee benefits decisions and those who are responsible for pension programs. When estimating the length of the employees' working life in making benefits or pension decisions, the employers need to be aware of the differences in men and women. For example, they need to incorporate more economic-related factors in estimating men's working life while more household related factors for women's. In addition, they might pay more attention to the health status for men and the concern for job stability for women in the process of predicting when these workers are going to leave the labor force.

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Retirement Timing Decisions of American Men

Using various definitions of retirement, a multinomial logit model is estimated to examine retirement timing decisions, including retiring gradually or following periods in and out of the labor force compared to outright retirement. The results are sensitive to the definition of retirement used.

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This study examines how sensitive estimates of retirement timing are to various criteria used to define retirement. As Rones (1986, in Kosterlitz) has remarked, "No one can define who is retired and who isn't." Although many studies have looked at the retirement decision, most are not comparable because they do not use a standard definition of retirement. Two components to a definition are: the timing of retirement, and identifying the criteria used to define that timing.

Retirement has typically been treated in the literature as an "event" in a person's life when they stop working and face a future of rest and relaxation. An alternative conceptualization is of retirement as a "process" encompassing different patterns, motivated by a variety of individual reasons. Retirement may occur over a period of time characterized by a gradual reduction in work hours, or people may choose to change to less physically demanding employment prior to full retirement. Others who have been unemployed in the years preceding retirement may engage in a variety of part-time work opportunities.

Literature Review

Retirement Definitions

What criteria have been used to define when retirement takes place? No consistent definition has been used. Criteria defining full retirement have included:

1. Self-reported retirement (Anderson and Burkhauser 1989; Chirikos and Nestel 1989; Gustman and Steinmeier 1986; Parnes et al. 1985; Palmore et al. 1985);

2. Complete labor force withdrawal (no work hours reported) (Hanoch and Honig 1983; Hayward and Hardy 1985; Honig and Hanoch 1985; Quinn 1981);

3. Receipt of a pension or social security income (Boaz 1987; Palmore et al. 1985; Parnes et al. 1985; Sjogren 1986);

4. Working less than a given number of hours, usually between 1,000 and 1,800 during the year before retirement (Holden 1988; Palmore et al. 1985; Parnes 1985);

5. A combination of the above (Haug, Belgrave, and Jones 1992; Parnes et al. 1985; Palmore et al. 1985; Palmore et al. 1984).

Partial retirement has also been examined. Definitions include:

1. A decline in earnings (Gustman and Steinmeier 1984; Honig and Hanoch 1985; Honig and Reimers 1987); and

2. Searching for a new type of employment after quitting a main lifetime job (Hanoch and Honig 1983).

Differences in definitions make comparing results of retirement decision studies difficult. Add to this differences in data sets used and a quagmire is quickly entered that leaves one wondering whether we have a handle on the retirement question at all. Never-the-less, several factors have been found to be associated with the retirement decision.

The majority of literature has attributed the retirement decision to issues surrounding earnings and wealth, mandatory retirement policies, Social Security, private pensions, and health status (see Ransom et al. 1989). Higher wages have been found to be associated with later retirement (Mitchell and Fields 1984; Burtless and Moffitt 1984), while wealth and retirement were

found to be inversely related (Burtless and Moffitt 1984). Various researchers have identified changes in earnings, job displacement (unemployment), and policies relating to age discrimination and mandatory retirement as contributing to the retirement decision (Shapiro and Sandell 1987; Andriasani and Daymont 1987; Clark 1987; Johnson et al. 1987; Hanks 1990). Research has shown that increases in Social Security benefits decrease retirement age (Mitchell and Fields 1984; Burtless and Moffett 1984). Increases in private pensions have been found to positively impact on early retirement (Palmore et al. 1985; Hardy 1985; see Quinn 1989).

Some researchers have examined the relationship between health and retirement. Anderson and Burkhauser (1985) found that using self-reported measures of health bias downward the effect of wages on retirement. Using the RHS Sickles and Taubman (1986) found positive effects of poor health on retirement. Sammartino (1987) found that poor health increases the probability of retirement and that older workers with health limitations do not respond to increases in Social Security payments by retiring later. Chirkos and Nestel (1989) found that men in "demanding" jobs are slightly more likely than others to retire early. Haveman et al. (1988) estimated the probability of continuing work, accepting early retirement, or accepting disability benefits. Large reductions in benefits led to only small reductions in the numbers of early retirees.

Retirement timing decisions (other than outright) have been examined by a number of researchers. However, most studies did not explicitly look at the these decisions as part of the retirement timing process per se. Instead, they examined becoming reemployed after retirement has been defined as having taken place (Anderson and Burkhauser 1985; Honig and Reimers 1987; Butler, Anderson, and Burkhauser 1989; Berkovec and Stern 1991; Hardy 1991; Blau 1994). Others have examined "partial retirement" (Honig and Hanoch 1985; Quinn 1981). Wealth, race, number of dependents, occupational category, and health status have been associated with retirement timing.

Overall, three observations can be made about retirement timing literature to date. First, data limitations have hampered the study of the retirement process. Many studies have used cross-section data, or data that is not representative of the U.S. population of elderly. Of the studies that have used national, longitudinal data from sources such as the Retirement History Survey (RHS), Social Security Beneficiaries Study, or the National Longitudinal Survey of Labor Market Experience (NLS), the most recent study used longitudinal data that *ended* in 1985, and the majority of studies concentrated on only a few variables of interest. Second, using various, inconsistent criteria to describe when retirement takes place has hampered the comparability of results. Third, most studies, because of restrictive definitions of retirement used, have not examined retirement as a process that can include various routes to labor force withdrawal.

Research Design and Methods

Several factors that affect well-being prior to retirement are hypothesized to affect the retirement timing decision. The model estimated here incorporates the idea that retirement may be either a single "event" or a "process" of gradual withdrawal from the labor force. A similar model has been used by Palmore et al. (1985) to describe retirement predictors.

Data

Because men and women have traditionally followed very different labor market patterns, only data from the Older Men cohort of the National Longitudinal Survey of Labor Market Experience (NLS) are used. This is a panel data set collected from 1966 through 1990 by the Bureau of Labor Statistics, U.S. Department of Labor. Data forming part of the older men cohort include an original sample of 5,020 men who were 45-59 years in 1966. The surveys monitor the pre- and post-retirement years.

Defining Retirement

The NLS provides a detailed description of the retirement transition, i.e., when the event occurred (or when the process began and ended). Timing of retirement information can be categorized into complete separation, decline in hours worked until full retirement, and periods of employment and unemployment. Establishing criteria to describe this point in time has been difficult for researchers.

Part-time work is a productive option for many older persons (Herzog et al. 1992; Kahne 1985). To leave it out of an examination of the retirement process is paramount to missing much of the input older persons may have in the economy. This study estimates the probability of falling into a particular category of retirement timing and compares the sensitivity of these estimates across 7 retirement criteria groups. These include:

1. Self reported retirement (When do you plan to retire?;

2. Self reported retirement 2 (activity survey week;

3. Worked fewer than 1,000 hours/year;

4. Worked fewer than 500 hours per year;

5. Receipt of Social Security or pension;

6. Receipt of Social Security or pension and worked fewer than 500 hours per year; and

7. Receipt of Social Security or pension and worked fewer then 1,000 hours per year;

Variables

Variables chosen for the analysis are those found by previous research to be important predictors of the retirement decision. They include several economic variables, including salary of the respondent (SALR), social security income (SOCSEC), transfer payments (including welfare and food stamps) (TRANSFER), non wage income (NWINC), age (AGE), years of education (EDUC), whether poor health limits working ability (HLIM), health limits of spouse, if present (HLIMSP), marital status (MARITAL), job satisfaction (JOBSAT), race (RACE), union participation (UNION), regional unemployment rate (UNEMPLOY), non-hazardous occupation (HAZARD), self employment status (SELFEM), working fewer than 26 weeks in the year before the retirement process began (OCCEXP), and plans to work after retiring (RETPLAN). It is important to note that variables representing salary of respondent (SALR) and job satisfaction (JOBSAT) are measured the *survey year before the individual reports being retired or begins to retire if the process does not take place all at once.* Thus, the analysis allows us to examine whether there are differences in precursor variables by timing of retirement. All monetary variables are reported using 1989 dollars. Five dummy variables for birth/retirement cohorts are included. Other studies using the NLS data have discounted the existence of cohort effects. Two birth cohorts were formed. The first includes those that were born between 1915 and 1921 and hence were not yet in the labor force when the depression began in 1929. The second includes those born between 1907 and 1914, who were just entering or were young members of the work force as the depression began. Members of cohort one were also more likely to have served in World War II, since they were between the ages of 21-27 in 1942. Three retirement periods were also defined based on the respondent year of retirement being 1966-71, 1975-80, or 1981-90. 1972 saw dramatic increases in the real benefits recipients received from social security, so distinguishing between periods one and two at that time is appropriate. The division at 1981 was made in part to create periods which were somewhat comparable in size, and in part because there is a large gap in data collection for the NLS between 1983 and 1990. The choice of age cohort and period leads to an approximately standard cohort table (Glenn 1977). The variation measured between cohorts and between sampling times can be attributed to three possible effects: aging, cohort, and period. Descriptive statistics are provided in Table 1.

Empirical Specification

Given there are three categories (y=0,1,2) of retirement timing, a multinomial logit model is appropriate to estimate the above equation. Let P_0, P_1, and P_2 be the probabilities associated with these categories. The object is to express the probabilities in binary form. To estimate the model, consider that an individual falls into one of 3 categories (y=0,1,2) with the probabilities given above. These probabilities can be expressed in linear form as

$$\log\frac{P_1}{P_0} = \alpha_{10} + \alpha_{11}X \qquad (1.a)$$

$$\log\frac{P_2}{P_0} = \alpha_{20} + \alpha_{21}X \qquad (1.b)$$

$$\log\frac{P_2}{P_1} = (\alpha_{20}-\alpha_{10}) + (\alpha_{21}-\alpha_{11})X \qquad (1.c)$$

Equations 1a through 1c are represented empirically by:

$$\text{RETIREMENT TIMING CATEGORY} = \alpha_0 + \alpha_1 \text{MARITAL} + \alpha_2\text{RACE} + \alpha_3\text{EDUC} + \alpha_4\text{UNION} + \alpha_5\text{PENSION} + \alpha_6\text{SALARY} + \alpha_7\text{SOCSEC} + \alpha\text{TRANSFER} + \alpha_9\text{NWY} + \alpha_{10}\text{HLIM} + \alpha_{11}\text{HLIMSP} + \alpha_{12}\text{DEP} + \alpha_{13}\text{HAZARD} + \alpha_{14}\text{SELFEM} + \alpha_{15}\text{RETPLAN} + \alpha_{16}\text{JOBSAT} + \alpha_{17}\text{UNEMPLOY} + \alpha_{18}\text{OCCEXP} + \alpha_{19\text{-}23}\text{PERCOH1-5} + \text{ERROR}$$

where the three retirement timing processes are outright retirement (y=0), gradual reduction in hours until retirement (y=1), and periods in and out of the labor force (y=2). This model is estimated using each of the seven different criteria used to define when retirement takes place and a maximum likelihood, multinomial logit procedure available in the statistical software package LIMDEP (Greene 1985).

Table 1. Mean and Standard Deviation of Variables

Variable	SELF RPT A	SELF RPT B	<500 HOURS	<1000 HOURS	PENSION/ SOCSEC	PEN/SS & <500	PEN/SS & <1000
RETIRE	0.87	0.60	0.54	0.51	1.04	0.41	0.37
	(0.52)	(0.59)	(0.74)	(0.74)	(0.92)	(0.62)	(0.60)
MARITAL	0.85	0.81	0.84	0.85	0.86	0.86	0.86
	(0.36)	(0.40)	(0.36)	(0.36)	(0.34)	(0.35)	(0.34)
RACE	0.26	0.37	0.31	0.31	0.30	0.30	0.29
	(0.44)	(0.48)	(0.46)	(0.46)	(0.46)	(0.46)	(0.45)
AGE	62.27	60.81	61.26	61.06	60.65	62.99	62.93
	(4.10)	(4.64)	(4.08)	(3.99)	(3.30)	(3.82)	(3.76)
EDUC	9.43	8.33	9.09	9.08	9.40	9.66	9.74
	(3.76)	(3.97)	(4.00)	(3.98)	(3.92)	(3.92)	(3.86)
UNION	0.36	0.24	0.30	0.30	0.34	0.41	0.42
	(0.48)	(0.43)	(0.46)	(0.46)	(0.47)	(0.49)	(0.49)
PENSION	0.44	0.26	0.30	0.30	0.51	0.44	0.45
	(0.50)	(0.44)	(0.46)	(0.46)	(0.50)	(0.50)	(0.50)
SALARY	23440.00	0.13E+05	18270.00	0.19E+05	23840.00	23420.00	24060.00
	(18960.0)	(0.17E+05)	(18350.00)	(0.18E+05)	(19580.00)	(19380.00)	(19270.0)
SOCSEC	2414.00	1662.00	2942.00	2820.00	2309.00	4273.00	4420.00
	(4195.00)	(3625.00)	(4428.00)	(4393.00)	(4015.00)	(4964.00)	(5005.00)
TRANSFR	127.80	187.80	124.60	123.80	104.30	63.72	73.85
	(825.40)	(1244.00)	(828.30)	(796.50	(799.30)	(568.30)	(649.00)
NWY	11050.00	0.12E+05	12680.007	0.13E+05	11040.00	12990.00	13070.00
	(15180.0)	(0.22E+05)	(19320.00)	(0.18E+05)	(17300.00)	(15730.00)	(15200.0)
HLIM	0.42	0.40	0.47	0.47	0.40	0.45	0.45
	(0.49)	(0.49)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)
HLIMSP	0.25	0.27	0.29	0.29	0.25	0.27	0.27
	(0.43)	(0.44)	(0.45)	(0.45)	(0.43)	(0.44)	(0.45)
DEP	0.25	0.25	0.27	0.27	0.30	0.24	0.24
	(0.43)	(0.44)	(0.44)	(0.45)	(0.46)	(0.43)	(0.43)
HAZARD	0.70	0.75	0.72	0.72	0.69	0.67	0.67
	(0.46)	(0.43)	(0.45)	(0.45)	(0.46)	(0.47)	(0.47)
SELFEM	0.10	0.21	0.17	0.17	0.12	0.05	0.06
	(0.30)	(0.41)	(0.37)	(0.37)	(0.33)	(0.22)	(0.23)
RETPLAN	0.08	0.47E-01	0.06	0.60E-01	0.09	0.07	0.07
	(0.26)	(0.21)	(0.23)	(0.24)	(0.29)	(0.25)	(0.25)
JOBSAT	0.78	0.53	0.67	0.67	0.76	0.65	0.65
	(0.42)	(0.50)	(0.47)	(0.47)	(0.43)	(0.48)	(0.48)
UNEMPL	7.11	6.29	6.68	6.68	6.85	7.63	7.70
	(2.91)	(2.80)	(2.99)	(3.03)	(2.80)	(3.06)	(3.10)
OCCEXP	0.09	0.17	0.17	0.16	0.06	0.22	0.22
	(0.28)	(0.37)	(0.38)	(0.37)	(0.23)	(0.42)	(0.41)
COHORT1	0.00	0.86E-02	0.01	0.11E-01	0.00	0.00	0.00
	(0.05)	(0.93E-01)	(0.10)	(0.11)	(0.04)	(0.06)	(0.06)
COHORT2	0.14	0.19	0.15	0.15	0.28	0.20	0.21
	(0.35)	(0.39)	(0.35)	(0.36)	(0.45)	(0.40)	(0.41)
COHORT3	0.35	0.12	0.18	0.17	0.27	0.31	0.31
	(0.48)	(0.32)	(0.39)	(0.38)	(0.45)	(0.46)	(0.46)
COHORT4	0.02	0.31	0.33	0.35	0.11	0.07	0.08
	(0.13)	(0.46)	(0.47)	(0.48)	(0.31)	(0.26)	(0.27)
COHORT5	0.38	0.29	0.27	0.27	0.29	0.33	0.33
	(0.49)	(0.45)	(0.45)	(0.45)	(0.45)	(0.47)	(0.47)
N	1315	464	1835	1795	2008	776	753

Results

Tables 2 and 3 present results of the multinomial logit procedure. Because using different retirement criteria affected the results greatly, only significant direction of effects are presented. This type of presentation allows one to easily compare sensitivity of results to the different criteria and to view at a glance the direction of effect of variables on the retirement timing process. Note that in the empirical estimation the interpretation of the results for gradual retirees is as follows: compared to those that retired outright, how does each independent variable affect the probability that an individual will retire gradually? For those that follow periods in and out of the labor force before retirement the results are interpreted: compared to those that retired outright, how does each independent variable affect the probability that an individual will retire following periods

Table 2. Results at a glance: gradual retirement.

Variable	A	B	<500 HRS	<1000	PEN/SS	PEN/SS/<500	PEN/SS/<1000
INTERCEPT	+	+	+	+	+	+	+
MARITAL	+					-	
RACE							-
AGE	-	-	-	-	-	-	-
EDUC	+	-					
UNION			-	-		-	-
PENSION	+					-	-
SALARY				+			
SOCSEC	-		-	-		-	-
TRANSFER	-		+	-			
NWY			-	-			-
HLIM	-		-	-		-	
HLIMSP							
DEP							
HAZARD							
SELFEM		+		-		+	+
RETPLAN		+	+	+		+	+
JOBSAT	+		+	+		+	+
UNEMPLOY	-	-	-	-		-	-
OCCEXP		-	-	-		-	-
COHORT1							
COHORT2	-	-	+	-		-	-
COHORT3	-	-	-	-	-	-	-
COHORT4		-	-	-		-	-
COHORT5	-	-	-	-	-	-	-
N	1315	464	1835	1795	2008	776	753

Table 3. Results at a glance: in-and-out retirement.

Variable	A	B	<500	<1000	PEN/SS	PEN/SS/<500	PEN/SS/<1000
INTERCEPT	+		+	+		+	+
MARITAL						-	
RACE	+		+	+			
AGE	-	-	-	-	-	-	-
EDUC			+	+	-	+	+
UNION	-				-	-	-
PENSION				-	-		
SALARY					-		
SOCSEC			+	-	-		-
TRANSFER		-		-			
NWY						-	-
HLIM		+	-	-			
HLIMSP					+	-	
DEP					+	+	+
HAZARD						+	
SELFEM		+	+	+		+	+
RETPLAN	-		+	+			+
JOBSAT			+	+	-	+	+
UNEMPLOY			-	-		-	-
OCCEXP			-	-	-	-	-
COHORT1							
COHORT2	-		-	-		-	-
COHORT3	-		-	-		-	-
COHORT4			-	-		-	-
COHORT5	-		-	-		-	-
N	1315	464	1835	1795	2008	776	753

in and out of the labor force before retirement?

The tables clearly show the results are sensitive to the criteria used to define retirement. In no case are the results the same when criteria are compared. However, results are most similar for criteria that define retirement timing based on both and hours and receipt of pension or social criteria formula. For the gradual retirees AGE, UNION, SOCSEC, NWINC, HLIM, JOBSAT, RETPLAN and COHORT2-5 yielded consistent results for at least three of the seven retirement criteria. AGE, UNION, SOCSEC, NWINC, HLIM, COHORT2-5 all decreased the probability that an individual will retire

gradually compared to retiring outright. JOBSAT and RETPLAN both increased the probability of retiring gradually as compared to outright. MARITAL, EDUC, PENSION, TRANSFER), and SELFEMP changed both signs and significance levels depending on the retirement criteria used. SALARY was significant for only one criteria.

For the in/out retirees results were less consistent AGE, OCCEXP, and COHORT2-5 were the only variables that had consistent signs for at least four of the criteria. AGE, OCCEXP, and COHORT2-5 decreased the probability of having periods in and out of the labor force before complete retirement compared to retiring outright. RACE, NWINC, UNION, PENSION, DEP, and SELFEM had consistent signs across two to four criteria, where significant. RACE and SELFEM increased the probability of going in and out of the labor market compared with retiring outright, while UNION, PENSION, NWINC, and DEP decreased the probability. probability. EDUC, SOCSEC, HLIM, JOBSAT, RETPL, and UNEMPLOY showed inconsistency in estimated directions of effects on in/out retirement processes.

Conclusions and Discussion

The objective of the study was to examine how retirement antecedents affect the probability of falling into a particular category of retirement timing processes. The only clear result based on applying the model outlined using different criteria to define retirement timing is that changes in retirement criteria lead to very different results. Economic variables, including increases in non-wage income, receipt of transfer payments and receipt of social security payments or a pension yielded very inconsistent results across the seven criteria for both gradual retirees and those that faced periods in and out of the work force as they retired. Belonging to a union, a structural component of last job held, consistently increased the probability of retiring outright. And, older persons who retired earlier in the data collection process are less likely to retire in ways other than an abrupt change in labor force activity. Family composition, health limitation, and post-retirement work preference variables did not perform consistently. Clearly, this study leads one to question the results of previous work in the area of retirement timing. Criteria used to define when retirement takes place have been inconsistently used in the past, making results of different studies of retirement incomparable. This study confirms others which have suggested that use of self reports of retirement cannot give a clear, consistent picture of the variables that influence retirement. And, the common use in previous studies ofusing a self report from a question in the NLS which asks about expected future activity, yielded the least robust results in this study.

Using an hours-only restriction improved the results. However, the effects of transfer payments and self employment status were inconsistent-as one moves from criteria that categorize persons as retired if they work less than 20 hours versus less than 10 hours per week. The most consistent and robust results were obtained using objective definitions that were the most restrictive: receipt of pension and/or social security payments combined with an hours restriction. When this definition was used, regardless of the number of hours chosen to define retirement, the inconsistencies in the two above mentioned variables vanished. The effect of transfer payments on the retirement timing process became insignificant and the effect of self employment became positive. Therefore, we suggest that future research be conducted using the most restrictive, objective criteria to define when retirement takes place.

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Confidence in a Financially Secure Retirement: Differences between Non-retired and Retired

The purpose of this study was to examine perception of financial preparation for retirement. Logit analyses revealed similarities between non-retired and retired in factors related to the probability of confidence in a financially secure retirement. For both groups, there was a positive relationship between confidence and having a satisfactory pension plan, good health, and believing that they had enough money for basic expenses. Additional factors related to confidence for the non-retired were perceived job security, having started saving, and having a supplemental retirement annuity.

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Introduction

The portion of life spent in retirement has greatly increased since 1900. In 1900, the average man lived 46.3 years and spent 1.2 years (or 3 percent) in retirement. By 1980, the average man spent 13.6 years (19 percent) of his 70 years in retirement (U.S. Bureau of the Census, 1984 cited in Aging America: Trends and Projections, 1991).

By 2030, the number of Americans aged 65 and over will more than double to 65 million (U.S. Bureau of the Census, 1989). Government programs are expected to be severely stretched when the baby boomers, now aged 30 to 48, begin to retire about 2012. There are now 3.4 workers for each Social Security beneficiary. By 2035, the ratio will be 1.1 to 1 (Social Security Annual Trustees' Report, 1993, cited in Retirement Savings in America, 1993).

The need to prepare financially for retirement is clear as individuals are living longer and taking early retirement. Men, in particular, are likely to leave the work force before the normal retirement age of 65. According to the U. S. General Accounting Office (1986), the proportion of male pension recipients age 50 to 64 nearly doubled between 1973 and 1983. Those without pensions or sizable personal assets are likely to remain in the labor force longer than those with more resources.

Research related to retirement covers a wide variety of topics, including the development of leisure activities, the decision to move, learning about the availability of medical care, and building up savings (Ferraro, 1990). Given the importance placed on finances as a concern of both the retired and preretirees, it is apparent that research is needed on factors which impact the perception of a secure retirement. Although it is actions that ultimately affect retirement preparation, the person's perceptions of the outcome of actions which they have already taken provide the basis for their beliefs. The purpose of this study is to determine if socioeconomic factors and financial management practices are related to confidence about preparation for retirement.

Background

Perceptions about Retirement

Atchley (1985) suggested that retirement should be regarded as a process rather than an abrupt event. Viewed as a process, retirement is believed to involve economic, social, and physical aspects that occur throughout one's life. Atchley and Robinson (1982) reported that older and younger retirees held generally positive attitudes about retirement when income was felt to be sufficient and health was good. Krause, Jay, and Liang (1991) found that financial strain eroded feelings of control and self-worth in persons 60 and over. Analysis of male participants in the Normative Aging study showed that almost one-third (30 percent) of retirees found retirement stressful and that the predictors of stress were poor health and family finances (Bosse et al., 1991). A study of women's perceptions of life after retirement revealed three important concerns: finances, leisure time, and keeping a positive attitude, with finances always the primary concern (Keddy & Singleton, 1991).

Preparation for Retirement

Socially and economically advantaged workers are more likely to have an opportunity to participate in retirement preparation programs than those who lack education and employment that provides access to such programs (Beck, 1984; Kilty & Behling, 1986). Older

men with more years of education, higher occupational status, and private pensions have greater access to retirement programs, as do government employees. Minorities tend to be less involved in retirement preparation programs.

In a cohort analysis of retirement preparation, Ferraro (1990) anticipated finding a linear relationship between age and retirement preparation. He did not find such a relationship; however, he found some support for Easterlin's (1987) thesis that relatively small cohorts fare better than larger cohorts when facing a depressed economic climate. Evans, Ekerdt, and Bosse (1985) showed that even workers who dreaded or were indifferent to retirement sought information about retirement as it drew near. However, the latter study focused on self-orientation and did not include actual retirement preparations such as those that were included in the study by Ferraro. Thus, the relationship between age and retirement preparation is unclear.

Research on retirement preparation of the baby boomers has shown that nonhousing net worth increased with income and education for cohorts of older and younger boomers. White households were more likely than nonwhite baby boomers to hold nonhousing net worth (DeVaney, 1994).

There is a distinct gap between women's and men's retirement preparation (Fifth Annual Merrill Lynch Retirement Survey, 1993; Logue, 1991; Meyer, 1990; Quadagno, 1988). Women have longer life expectancies than men and, on average, earn only 70 cents for every dollar earned by men. Women spend fewer years in the work force due to child care and elder care responsibilities and, consequently, have smaller pension benefits and less Social Security. Although relatively few studies have focused on women's preparation for retirement (Coyle, 1990), Kilty and Behling (1986) showed that women were much less financially prepared for retirement than men. McKenna and Nichols (1988) found that among women aged 40 to 55, those who were most active in retirement planning had higher household incomes, expected a pension, and were generally willing to take risks, i.e., investment risk.

Studies which attempted to examine the extent and pattern of financial planning for retirement by professional workers indicated that income was the most consistent predictor for both black and white professionals (Kilty & Behling, 1986; Richardson & Kilty, 1989). The dependent variables used in those studies and identified as "financial planning" were actually sources of post-retirement income. The current study interprets financial planning as decisions which are made about the resources used to finance retirement.

For many persons, employment with good pension benefits is thought to be a basis for retirement savings. However, some people choose to be self employed and fund their own retirement. And those who are covered by employer retirement plans face the uncertainty of changes in the economy, the tax laws, and the failure of pension funds.

The history of pensions is well developed. Private employer pension coverage grew rapidly during the 1940s and 1950s. The proportion of private employees covered by a pension plan grew from 12 to 37 percent between 1940 and 1960. The growth rate of coverage was slower between 1960 and 1970 and the coverage rate declined from 43 to 40 percent between 1979 and 1988 (Reno, 1993). In 1991 58 percent of those working full time reported that their employer or union had a pension plan. Of those who indicated that a plan existed, 84 percent of full-time workers participated. In contrast, only 39 percent of part-time workers were participants in a pension plan (Employee Benefit Research Institute, 1994).

A major change since the mid-1970s is the growth in defined contribution (DC) plans relative to defined benefit (DB) plans. Defined benefits are usually financed by the employer; such plans pay a fixed amount at retirement based on earnings and length of service. In contrast, defined contribution plans consist of employer and employee contributions and the employee's share has been increasing. In 1990, employers paid all of the contribution in 71% of 401(k) DC plans, but in 1993, employers paid the entire contribution for only 57% of the plans. The DC plans also shift investment risk from the employer to the employee as the employee selects the investment vehicles for the account (401(k) Survey Report, 1994).

Conceptual Framework

Satisfaction with Financial Resources

There are major differences in financial resources between most retirees and non-retirees (Schwenk, 1990, 1993). Retirees tend to have lower incomes and receive only a small proportion of income from earned wages and larger proportions of income from Social Security and pensions. Compared to non-retirees, retirees have more tax advantages, are home owners, and frequently have paid off their home mortgages.

Differences in economic resources between the elderly (most of whom are retired) and non-elderly (most are still employed) are illustrated by four trends (George, 1992). First, compared to the 1960s, the economic status of the elderly relative to the non-elderly has shown marked improvement during the past 25 years. Second, between the 1960s and the present, each cohort has

entered old age with greater levels of economic resources than previous cohorts. Third, the cohort effect masks a longitudinal effect, i.e., within cohorts, economic resources decline with age. There are fluctuations over time with widowhood being one of the exacerbating forces of decline in income. Fourth, there is greater income inequality among the elderly population than among the non-elderly. In summary, while there has been overall improvement in the economic resources of the elderly in the last three decades, there is great diversity in resources among the elderly. Thus, any analysis of the economics of the elderly may show more heterogeneity than homogeneity.

Life Cycle Savings Hypothesis

A basic premise of the life cycle hypothesis of saving is that individuals will maximize their utility over their lifetime (Ando & Modigliani, 1963). Assumptions of the theory are that individuals plan for the future, will borrow against the future, and have a preference for consumption which implies that they will dissave at certain stages to maintain a desired level of consumption. In general, dissaving is expected to occur during the early years of household formation and following retirement. In the years prior to retirement, households tend to save a greater proportion than before in expectation of reduced income following retirement.

Hypotheses

Based on previous research, it is expected that confidence in financial preparation for retirement will be positively related to economic resources and financial management practices. On the basis of the life cycle hypothesis, it is expected that there will be a positive relationship between age and confidence in retirement preparation for non-retirees and an inverse relationship between age and confidence in preparation for retirees. The relationship between gender and confidence is not clearly shown by previous research. Income and education attained are expected to be positively related to confidence in preparation.

Methodology

Sample

The sample consisted of 800 households headed by an individual over the age of 25. The households were surveyed by telephone between July 5 and July 15, 1993 by Mathew Greenwald and Associates, Inc., a survey research firm specializing in research on financial issues. Random digit dialing was used to obtain a representative cross-section sample. The wording of some of the survey questions varied depending on whether the respondent was retired or not retired.

Variables and Analysis

Logistic regression was used to examine whether or not confidence in retirement could be predicted. The logit coefficients were useful in determining the direction of the effects of the independent variables. The dependent variable was a measure of global satisfaction of financial preparation for retirement. The question was stated as follows, "Overall, how confident are you that you (and your spouse) will have enough money to live comfortably throughout your retirement years?" The responses were very confident, somewhat confident, not too confident or not at all confident. The response was converted to a binary variable by coding very confident as 1 and all other responses as 0. The purpose of using a binary variable was to analyze the probability of holding a high measure of confidence about preparation for retirement.

The independent variables consisted of demographic characteristics, economic resources, and financial management practices. The demographic characteristics included age, gender, education, marital status, and health. Economic resources included income, having a retirement plan at work and other sources of retirement income such as an IRA, a 401(k) or a Supplemental Retirement Annuity, and perception of job security. Variables which measured financial management practices included questions that asked whether the respondent: (a) had calculated the amount needed for retirement, (b) had started saving for retirement, (c) contributed the maximum amount to an IRA or 401(k), (d) had ever withdrawn money from a pension plan, and (e) whether the individual strongly agreed that he had a good pension plan. The latter implies that the individual sought employment that included pension benefits. The independent variables are presented in Table 1.

Findings

Characteristics of the Sample

The descriptive statistics for the sample are shown in Table 1. The sample consisted of 600 non-retired households and 200 retired households. The typical non-retired household was headed by a person whose average age was 42, married, with some college or a college degree, and earning more than $35,000. A typical retired household was headed by a person who was 69 years old and a high school graduate or less. Almost half of the retired households (47 percent) had incomes below $25,000.

Retirement Preparation

Table 2 displays the logistic regression results. The dependent variable was whether or not the respondents felt very confident that they were financially prepared for retirement. A larger proportion of retirees (29 percent) than non-retirees (19.5 percent) were very confident that they were prepared financially for retirement.

Retired

Only three factors were statistically significant for retirees. Being very confident that they could meet basic expenses and that their health was good were positively related to the probability of confidence of account were positively related to confidence in preparation.

secure retirement for the retirees. Further, having a pension plan was positively related to being very confident about financial preparation for retirement for the already retired group.

Non-retired

Non-retirees' confidence in financial preparation for retirement was significantly related to eight factors, all else equal. Similar to the retirees, confidence in meeting basic expenses and good health were positively related to a high level of confidence. Being confident that their pension plan at work was a good plan was statistically significant. This finding is different from the results of the retirees. For the retirees, having a pension plan was significant, not the belief that it was a good pension plan.

Table 1
Characteristics of the Sample

	Non-retired		Retired	
Age (Mean)	42 years		69 years	
Male	49%		44%	
Married	68		54	
Education <=12 years	36		58	
Some college	31		22	
College graduate or advanced work	33		20	
Income < $25,000	25		47	
Income $25,000-$35,000	18		20	
Income >$35,000	57		33	
Have (or had) IRA	37		28	
Have (or had) 401(k) plan	35		3	
Have (or had) Supplemental Retire Annuity	10		5	
Have (or had) Employer-sponsored pension plan	61		54	
Confident healthy enough to enjoy retire	36		38	
Confident enough $ for basic expenses	40		43	
Confident could find another job	33		--	
Confident about Soc Sec in future	5		24	
	Yes	**No**	**Yes**	**No**
Good employer-sponsored pension	37%	63%	29%	71%
Calculate amount needed	35	65	19	81
If have IRA, put in maximum	51	49	58	42
If have 401(k), put in maximum	43	57	80	20
Ever withdraw $ from plan	16	84	--	--
Age started saving (mean)	--		46 years	
If started saving	64%	36	--	--

Table 2
Logistic Regression Results: Confidence in financial preparation for retirement

Variable	Non-retired Coef.	SE	Retired Coef.	SE
Intercept	-5.397	0.885**	-7.369	2.379**
Age	-0.001	0.014	0.028	0.029
Male	0.601	0.297*	0.868	0.503
Married	-0.999	0.365**	-0.076	0.521
Education <=12	-0.193	0.391	1.033	0.649
Education 13-15	0.333	0.345	0.116	0.680
Income < $25,000	-0.440	0.523	-0.309	0.665
Income >$35,000	0.428	0.426	0.587	0.654
Pension at work	-0.233	0.411	1.462	0.536**
Has IRA	0.155	0.399	-0.514	0.528
Has 401(k)	-0.543	0.416	-1.480	1.360
Supplement Annuity	1.093	0.436*	-0.154	1.069
Good pension plan	1.362	0.336**	0.459	0.505
Calculate amount	-0.276	0.314	1.007	0.559
Confident health	1.676	0.315***	1.436	0.451**
Confident basic exp	3.413	0.442***	2.714	0.540***
Age started saving	---	---	0.004	0.009
If started saving	0.815	0.407*	---	---
Confident find job	0.764	0.312*	---	---
Maximum to IRA	-0.034	0.442	---	---
Maximum to 401(k)	-0.449	0.486	---	---
Withdraw $ pension	-0.804	0.437	---	---
Pseudo R^2	.317		.337	

* p < .05 ** p < .01 *** p < .001

Two financial management practices: having started saving and having a Supplemental Retirement Annuity account were positively related to confidence in preparation. These findings indicate that the individual had adopted long-term objectives for the accumulation of assets. Having started to save and the use of a supplemental account imply that the individual is consciously allocating resources to provide for future consumption. It is possible that these decisions require more individual planning and decision making than being covered by an employer sponsored plan. However, having acquired a position with a pension is also indicative of individual accomplishment. The perception of job security (being able to find another job with equal pay without difficulty) was positively related to confidence. This finding implies that the individual was proficient in an occupation that was of demand in the marketplace.

Males in the non-retiree group were more likely to be confident about their financial preparation for retirement than females. Men may be more confident about their financial preparation for retirement due to having relatively more financial education and experience than women. Another explanation may be that men tend to be more confident overall than women.

Also, those who were single, divorced or widowed were more likely to be confident about their preparation for retirement than the married. It may be that those who are not married need only concern themselves with financing their own retirement while those who are married must prepare to finance not only their own retirement years, but contribute or fully fund the retirement of a spouse. Selection of survivor benefits reduces the receipt of current benefits. The health and life expectancy of a spouse adds more uncertainty to the financial preparation for retirement.

Discussion

Implications for Further Research

It would have been helpful to know the percentage of income which was targeted for the

retirement savings.Finally, race or ethnic background was not included in the data collection, thus, it was not possible to include race or ethnicity in the analysis.

Although rates for women's pension coverage have been increasing since 1972, they are still below the rates for men (Even & Macpherson, 1990; Korczyk, 1993; Meyer, 1990). Women continue to earn less and change jobs more often than men. But, more women than ever before can expect to depend on their own employment history for retirement benefits. It would be useful to analyze the data for the non-retirees by gender to learn if there are differences in confidence in financial preparation for retirement.

Implications for Consumer Education

The results of the study suggest several important conclusions. First, employer sponsored pensions are important for both retirees and non-retirees. It is particularly significant to note that, for non-retirees, it was the perception of how good the plan was that was related to the probability of confidence in financial preparation for retirement.

Second, as noted in the review of literature, health was an important consideration in having confidence in retirement preparation. While one would expect that many of the retirees had access to Medicare and possibly to health care benefits as retired employees, the retirees indicated that having good health implied confidence in a financially secure retirement. Seventy-three (73 percent) of the non-retirees were employed full-time; it is possible that many of those would be covered by a health care plan. Still, the belief that enjoying good health was positively related to confidence is an indicator of the concern about large and unexpected costs for health care in the future.

Third, several financial management practices were indirectly identified by the analysis. The notion that there was enough for basic expenses suggests that some budgeting or cash flow analysis had been accomplished. Having a Supplemental Retirement Annuity indicates that resources which could have been used for current consumption were instead being accumulated in a retirement account. Although the initial salary deduction may not have been tax-deferred, it is possible that growth of capital in the account was tax-deferred. The descriptive statistics (Table 2) show that non-retirees believe that their own input into the pension plan at work will be the most important source of income in retirement. This is supported by the results for the "starting to save" and Supplemental Retirement Annuity variables.

Finally, the non-retirees expressed the belief that the value of Social Security when they retire will not equal the value of Social Security now. This belief can encourage them to rely more on their own savings.

In conclusion, the study found strong support for the importance of employer-sponsored pensions but it also found support for the reliance on sound financial management practices by individuals. Age was not significantly related to confidence in preparation, but different factors were important contributors to confidence for the two groups who represented relatively younger (non-retirees) and older (retirees) individuals.

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Endnotes

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Financial Preparation for Retirement

Data from 1989 Survey of Consumer Finances were used to examine the effect of socioeconomic variables on involuntary, voluntary, and other financial preparation of preretirees. Age, education, race, tenure, and employment status significantly influenced involuntary and voluntary financial preparation of preretirees which has implications for policy makers, gerontologists, retirement counselors, financial planners, and educators.

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Retirement is a complex social process through which people move during their lifetime. As 13% of Americans have already reached retirement ages and more approach the threshold of retirement, their responses to social forces affecting retirement will be determined by their experiences, expectations, and planning behavior. Although the elderly have higher per capita income, social and demographic changes such as increasing number of elderly, increased life expectancies, high divorce rates, changes in real wages, saving rates, and decreasing labor force participation may adversely effect their retirement incomes (Burns, 1990). One of the issues in retirement is the ability to finance it and the financial preparation for retirement is likely to vary among individuals.

Most current literature on retirement is based on people who are now older as preretirees are not frequently studied for retirement literature but this study attempted to fill that limitation. The purpose of this study is to understand the extent of financial preparation of preretirees and to examine the effect of socioeconomic differentials on their financial preparation for retirement.

Literature Review

Several studies have focussed on the importance of financial status to both retirement preparation and satisfaction. While some studies measured the financial status of the elderly, financial planning for retirement requires evaluating the positions of preretirees relative to retirement needs. Many methods can be used and one of them is the life cycle hypothesis. The life-cycle economic approach implies that people try to vigorously save before retirement because they think they will be dissaving after retirement; although economists have shown that retired persons are less likely to dissave than was originally posited (Danzier, Van Der Gaag, Smolensky, and Taussig, 1982; Ando and Modigliani, 1963; Kotlikoff, Spivak, and Summers, 1982; Hogarth, 1991).

An alternative interpretation of the inequalities of income distribution among the elderly is the cumulative advantage/disadvantage model. Those who are initially advantaged are more likely to receive a good education, leading to good jobs, leading to better health and better pension coverage, leading to higher savings and better postretirement benefit income (Crystal & Shea, 1990).

Leon (1985) identified a recursive model of economic status in retirement that pointed to a sequence of factors where previous conditions influenced later ones. He found that the family's socioeconomic and demographic characteristics determine to a large extent the educational attainment, which then influences occupational achievement.

In this study, task specific indices such as voluntary savings, and involuntary savings were synthesized to form an overall assessment of financial preparation. This study will try to overcome a major limitation of previous research. It will assess both voluntary and involuntary financial preparation to determine the overall financial preparation of preretirees. Some of the limitations of this study are: 1) Survey data of 1989 was used. Comparisons between years or longitudinal data could reveal a more thorough understanding of financial preparation of preretirees. 2) Imputed rent and home equity annuities were not considered for financial preparation. 3) It would be preferable to have more finely grained information on voluntary financial preparation including plans for saving, saving habits, and financial obligations.

Methodology

Data and Sample

Data from the Survey of Consumer Finances collected in 1989 by the Survey Research Center, University of Michigan, and sponsored by the Federal Reserve Board and several other federal agencies were used. The data replicates the first imputation from the public use tape (Kinneckell and Shack-Marquez, 1992).

Since the primary objective of this study is to examine the financial preparation of preretirees, employed respondents aged 65 years or younger were selected for the sample. The age delineation allowed representation of persons on the age continuum to compare those near retirement, 'the near phase' as well as those who have considerable time until retirement, 'the remote phase'. The sample size for the study was 1971 and included only full time workers, with the premise that full time workers were more likely to be eligible for pension plans and participate in contributing to them. Weighted samples were used to produce descriptive statistics and conduct data analyses.

Variables

Dependent variables. Dependent variables for these analyses were grouped into involuntary financial preparation, voluntary preparation, and other financial preparation. Two involuntary financial preparation measures were considered, eligible for pension or retirement plan(s), PENSION, and contribution to pension or retirement plan(s), PENCON.

Voluntary financial preparation was measured using four indices, reported reason of saving for retirement (RETIRE), networth status (NETWTH), planning the time period for saving (PLAN), and saving habit (SAVEHAB). The first variable was a saving motive if one of the respondent's reason for saving was for retirement. The other three variables, networth status, planning the time period for saving, and saving habits are measures of saving behavior. Networth status is a cumulative index consisting of paper assets and cash value of whole life insurance, house, value of other properties, gross market value of vehicles, present value of private pension minus total liabilities. Planning the time period for saving is crucial for financial preparation. Saving habit measured if a respondent was saving at the present time.

The other financial preparation measures were financial obligations (FINOBLIG), private health insurance coverage (HEALTHINS), and adequacy of retirement income (ADEQ). The first two measures assessed if respondents had any financial obligations such as educational costs, and health care costs, and if they had health insurance coverage. The perception of the preretirees was tested by asking if they felt they would have adequate retirement income.

Independent variables. The independent variables include socio-demographic factors: age, gender, race, marital status, and household size; human capital-related factors: education, health status of respondent and spouse/partner, and tenure; and work-related factors: employment status, and length of employment. Initially, income was included in the analyses as an independent variable, however, no income effect was found in seven out of the eight dependent variables. So the final analyses did not include income as an independent variable.

Analysis

Since the dependent variables in this study were measures of retirement preparation which suggested the propensity of retirement preparation, the probit models were more appropriate for the purpose of this study (Maddala, 1992, p. 327).

Results

The descriptive statistics of the weighted sample were presented in Table 1. The majority of the sample was male, white, with self reported good health, worked for an employer, contributed to a pension plan, and had private health insurance coverage. The mean household size was 3 members, with an annual household income of $44,122.00.

The results of the socio-economic factors affecting the financial preparation of preretirees are presented in Table 2. Involuntary financial preparation was significantly influenced by socio-demographic and human capital factors. Whites, preretirees between 31-59 years and with higher education, and homeowners were more likely to have pension plans, whereas self-employed and married preretirees were less likely to have retirement or pension plans. Preretirees with higher education and having worked longer for their current employer were more likely to contribute to pension plans, while whites, married, respondents with good health were less likely to contribute to pension plans.

Voluntary financial preparation was influenced by some of the socio-demographic factors and human capital factors (refer to Table 2).

Table 1
Descriptive statistics of the sample (N=1971)

	%	Mean (SD)
Socio demographic variables		
Age		
<31 years	20.2%	
31-38 years	23.6	
39-45 years	23.6	
46-52 years	13.1	
53-59 years	12.9	
60-65 years	6.6	
Gender		
Male	80.2%	
Female	19.8	
Race		
Whites	77.9%	
Nonwhites	22.1	
Marital Status		
Married	63.3%	
Nonmarried	36.7	
Household size		3.07 (2.8)
Human capital variables		
Income		44.1K (4.7K)
Education		13.34 (4.70)
Res health		
Excellent	45.2%	
Good	43.2	
Fair/Poor	11.6	
Spouse health		
No spouse	32.6%	
Excellent	28.2	
Good	29.9	
Fair/Poor	9.3	
Tenure		
Homeowner	64.7%	
Renter	35.3	
Work related variables		
Employment		
Employer	85.4%	
Self empl	14.6	
Lgth of empl		9.20 (1.49)

Whites, having higher education and a spouse with good or excellent health, and homeowners were more likely, and preretirees 52 years and younger, larger household size, and self employed were less likely to report saving for retirement. Whites, and homeowners were more likely to have positive networth status. Respondents between 53 and 59 years, having good health, homeowners, and self employed were more likely to have plans to save within the next five years, however, larger households planned to save after five years. Self employed and whites were less likely to save at the present time but higher educated, homeowners, and those having a spouse with good health were more likely to save.

Other financial preparation indices were significantly affected by socio-demographic, human-capital, and by self employment. Preretirees aged 59 years or younger, higher education, self employed, and those having a spouse with good health were more likely and males and those having good health were less likely to have financial obligations. Respondents aged 31-45 years, 53-59 years, whites, married, higher educated, homeowners, having good health, and having a longer work experience were more likely to have private health insurance coverage and the self- employed were less likely to have private health insurance coverage. Married, white, preretirees between 38 years or younger, having a spouse with good health, and self employed were less likely to perceive having adequate retirement incomes. This study presented some interesting and mixed results about the financial preparation of preretirees. Further research would help in clarifying some of the results obtained in this study.

Discussion

Older respondents were more likely to report saving for retirement. Preretirees as young as 30 years indicated that one of the reasons for saving was for retirement. However, their networth status and saving habits were not reflective of this saving motive. Saving motives reported by preretirees may be a better indicator of perceived financial needs and may not exhibit immediate action (Xiao and Malroutu, 1994). A matter of concern is the lack of contribution to pension plans for employed preretirees among all age groups. Social

Table 2
Results of Probit Analysis of Financial Preparation for Retirement

	Involuntary		Voluntary Financial Preparation			
	Penson	Pencon	Retire	Netwth	Plan	Savehab
Age						
<31	.12	.05	-1.3***	-.09	-.17	-.07
31-38	.53**	.11	-0.8***	-.51	.20	-.07
39-45	.71***	.36*	-.72***	-.09	-.09	.06
46-52	.40*	.05	-.39**	.11	.22	-.17
53-59	.40*	.30	.08	.90	.29*	-.01
60-65+						
Gender						
Male	.03	-.12	-.03	-.01	.15	-.06
Female+						
Race						
Whites	.31***	-.21*	.28**	.45*	.11	-.19*
Nonwhites+						
Mar Status						
Married	-.41*	-.59**	.12	-.46	.26	.05
Nonmarried+						
Hhld size	.01	.03	-.19***	-.02	-.06*	-.03
Education	.09***	.06***	.05***	.05	-.01	.08***
Res health						
Excellent	-.04	-.25*	.04	.17	.44***	-.12
Good	-.08	-.36**	.08	.28	.34***	-.03
Fair/Poor+						
Spse health						
No Spouse	-.35	-.73**	-.05	-.39	.05	.35
Excellent	.69	-.20	.29*	.14	-.12	.64***
Good	-.16	-.17	.45***	.40	-.02	-.46***
Fair/Poor+						
Tenure						
Homeowner	.40***	.13	.43***	1.3***	.36***	.22**
Renter+						
Employment						
Employer	2.3***	1.4***	.21*	-.45	-.20*	.20*
Self emply+						
Lgth emply	.06***	.03***	.00	.03	.01	.01
Log likelihood	-967.3	-782.1	-933.1	-436.3	-1241.1	-1047.7

+ reference category * p<.05 **p<.01 ***p<.001

security is often described as a program which was never intended to be the predominant income source on which retirees should rely, but rather to complement savings, private pensions, and other private sources of income, sources which in fact account for a large share of the resources on which older persons depend. The suggestion that social security should be reduced in favor of expanded private systems is often recommended. In light of the present results, it is evident that even preretirees who are closer to retirement (60-65 years) were not significantly contributing to pension plans. When these preretirees retire they will have no other alternative but depend on social security as their primary source of retirement income.

Race was also an important factor in predicting the voluntary and involuntary financial preparation of preretirees. Nonwhites were in a precarious position of not having jobs that provide pension plans, and had no private health insurance coverage. Their reported reason for saving was not for retirement, had zero or negative networth, and were not saving each month, but felt they would have adequate retirement income. These results are indicative of the structural arrangement of the society as well as the socio-demographic factors (Leon, 1985). Even though nonwhites were not included in pension plans and were not saving each month they felt they would have adequate retirement income. Perhaps, they may foresee little change in their living standards and subsequently, feel they have adequate retirement income

In keeping with the cumulative advantage theory (Crystal and Shea, 1990), the results of this study indicate that education had a significant effect on involuntary and voluntary financial preparation. Better educated preretirees were more likely to be employed in jobs with pension plans, were contributing to them. Education also significantly influenced the preretirees' saving for retirement. Preretirees with higher education felt they had no financial obligations, and were covered by private medical insurance.

The longer the respondent was employed the more likely (s)he had pension plans and were contributing to these plans. Length of employment had a significant effect on medical insurance coverage.

As expected self employed respondents did not have pension plans and were not contributing to these plans. Although IRAs and Keogh plans encourage self employed persons to start saving for retirement, they are underutilized and often overlooked. Preretirees employed in government jobs and in private industry are compelled to contribute a certain percentage of their salaries towards a retirement plan. Herein emerges a picture where preretirees lack the mental discipline to save for retirement unless involved in a mandatory retirement plan.

Implications

Maintaining economic well-being among elderly persons is a major public policy goal and is the object of extensive budgetary outlays and transfer payments. Understanding how pre-retirement socio-economic characteristics influence post-retirement economic outcomes is important for policy formulation and, more broadly, in understanding processes of socio-economic stratification across the full life course.

The development of any kind of financial resources is preferable to no preparation. Pre-retirement programs offered either by employers, educators, or private providers should be geared toward those who are in financial need for retirement. Financial planning programs must also present realistic assessments of pension benefits and social security. Even small annuities and IRAs, with limited annual contributions and short time periods for development, provide some financial security. Pre-retirement programs should take into account a worker's age, financial position, and stage in the family life cycle to effectively appeal to workers.

Finally, anyone concerned with aiding the well-being of pre-retirees is probably troubled by the recurrent finding that minorities, those with less education, and the self employed are not as active in preparing for retirement. This research confirms the work of others, who point out that those might benefit most from such planning are among the least likely to pursue it. While intervention aimed at increasing participation in retirement preparation should continue to be vigorously supported, the recurrence of this finding infers that the problem is deeper and more systemic in nature than simply increasing an awareness for participation.

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Endnotes

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Factors Affecting Human Capital Expenditures of Female-Headed Households

Using the 1990-91 Consumer Expenditure Survey, this study investigated the determinants of human capital expenditures by female-headed households. Two categories of human capital expenditures were examined: health care and reading/education. Human capital theory was used as the conceptual framework in this study. OLS regression was used for empirical analysis. Results showed that household size, home ownership, age, and race of the reference person were positively related to health care expenditures. The results also indicated that household income, home ownership, age, race, and occupation had positive impact on reading/education expenditures.

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Introduction

In the past three decades, while the proportion of traditional two-parent households has been declining, the number of female-headed households has been increasing rapidly. The percentage of married-couple households with children under age 18 declined from 40 percent of households in 1970 to 26 percent in 1990 (U.S. Bureau of the Census, 1991). Female householders headed 28 percent of all households in 1990 (U.S. Statistical Abstracts, 1991). Since the female-headed household is an increasing segment of the population, the study of their human capital investment behavior could be a matter of concern for family economists.

The objective of this study is to identify human capital investment behavior of female-headed households and to predict factors which have a significant effect on the amount of human capital related expenditures contributed by the female-headed household. The manner in which female-headed households allocate their money resources has a substantial impact on their economic well-being and, ultimately, quality of life.

A number of studies have been conducted to identify the expenditure behavior of female-headed households (Horton, 1978; Lino, 1989). However, no studies that deal with variations in human capital investment through the analysis of expenditure categories have been found, and little is known about factors determining on human capital related expenditures. Investment for future consumption or future earnings could be the determinant of the future well-being of female-headed households. By identifying the extent of investment in human capital through consumption expenditures, the findings of this study could provide family resource management professionals with information on how the socioeconomic characteristics of such households can be expected to affect human capital related expenditures.

Review of Literature

Using data from the 1972-73 Consumer Expenditure Survey, Horton (1978) examined the factors affecting expenditures on food away from home, furnishings and equipment, transportation, health care, personal care, gifts and contributions, and alcohol and tobacco for single female-headed households. It was found that permanent as well as current income were positively related to all expenditure categories. It was also indicated that household size was negatively related to expenditures on health care and nonblack female-headed households spent less on health care than black female-headed households. Further, single female-headed households living in an owned home spent more on health care than those households who were renters. Households with an employed female head spent more on food away from home and health care than households with an unemployed female head.

Lino (1989) examined the factors influencing the housing, transportation, food, and clothing expenditures of single-parent households, using the 1984-85 Consumer Expenditure Survey. As factors affecting expenditures of the single-parent household, he included household income after taxes, household size, sex of head, age, race, educational level, employment status, home ownership, and car ownership. The household income had a significant positive effect on all four expenditure categories. Household size had an effect on transportation and food expenditures for single-parent households in the sample. Female-headed households

spent 148 percent more on clothing than did male-headed households, and the educational level of the single parent was positively related to the expenditures on housing. Age of head had a positive effect on both the transportation and food expenditures, and the employment status of the head had a positive effect on housing, transportation, and clothing expenditures. The single-parent households who owned a car had transportation expenditures higher than those who did not own a car.

Horton and Hafstrom (1985) compared differences in consumption expenditures between single female-headed and two-parent families. The six individual categories of consumption were modeled as functions of permanent income. The results showed that permanent income had a significant effect on all six expenditure categories. It was found that race of head had no effect on recreation/reading expenditures investigated for female-headed families, but education of head had a positive impact on recreation/reading expenditures. Among female-headed households, age of head had a significant positive effect on expenditures for total food and food eaten at home, but no significant effect on household expenses, clothing, and recreation/reading expenditures. In their study, location showed no consistent relationship to expenditures on all six categories. Homeowners with and without a mortgage spent more on total food, food at home, and household expenses than renters. However, home ownership had no effect on recreation/reading expenditures among female-headed families.

Abdel-Ghany and Schwenk (1993) examined differences in consumption patterns between single-parent and two-parent families for six major expenditure categories. The results showed that permanent income had a significant effect on all six expenditure categories. Family size had a significant positive effect on expenditures for total food and food eaten at home, but family size had no effect on household expenses or expenditures for recreation and reading for the single-parent families. Black, single-parent families spent 67 percent less on recreation and reading than nonblack single-parent families, holding other variables constant. Education of the head had a significant positive effect on recreation/reading expenditures in single-parent families. Single-parent families whose heads had a high school diploma or higher spent more on recreation and reading than the omitted category, whose heads lacked high school diplomas. It was found that location was not a significant factor explaining the variation in recreation/reading expenditures for single-parent families.

Conceptual Framework

Human capital theory posits that an individual's education, job training, work experience, health, and other attributes enhance productivity in the labor market (Schultz, 1961). Additional schooling increases an individual's productivity, and employers, recognizing this, pay higher wage rates to individuals with more schooling. Human capital theory also suggests that if education is not regarded as pure consumption, if formal schooling initially has a high rate of return, the individual maximizes his/her wealth by continuing to invest in schooling until the rate of return on schooling has been driven down to the market rate of interest.

The concept of human capital has been explained by several scholars. Mincer and Polachek (1974) stated that individual endowments are not merely genetic, but that they can be augmented by processes of investment in human capital and reduced by depreciation. Becker (1975) viewed education as an investment in human capital which is similar to industry's investment in physical capital, and he also explained that individuals develop characteristics that endow them with value and this accumulated human capital makes them more employable.

In a broader sense, human capital includes initiative, resourcefulness, capacity for sustained work, ethical values, interests, attitudes, and other human qualities conducive to higher output and accelerated economic growth (Mehta, 1976). Furthermore, the obtained knowledge and skills for music, art, drawing, crafts, and sewing could be viewed as human capital: these variables are represented as cultural capital by DiMaggio (1982).

In the study of human capital investment, Bryant (1990) stated that Americans spent great amounts of time and money investing in themselves. He revealed that the United States devoted 6.7 percent of its gross national product to schools and schooling in 1980, and millions of people took private lessons in everything from sewing to music, from skiing to hang gliding. Bryant named formal education, experience, and health as the three most obvious types of human capital investment.

Typically, the theory of investment in human capital aims to estimate the money rate of return to high school and college education (Becker, 1975). Several empirical studies have been undertaken to estimate the rate of return on investment in human capital, particularly in education and on-the-job training (Mehta, 1976). This study, however, is not designed to measure the value of human capital, but to analyze how female-headed households use resources either for current consumption or for future earnings (i.e., for investment). Investment in

human capital means that using time and spending money are not related to current consumption, but to acquiring skills and credentials that will provide future benefits.

Investment in human capital could be the most important economic decision most people make (Morgan & Duncan, 1983). People make decisions about how much time and money to invest in improving personal skills, acquiring knowledge, augmenting experience, and maintaining health. Based upon previous studies that explained the concept of human capital, education, reading, on-the-job training, and visiting physicians are considered as the means to obtain the characteristics of knowledge, skills, experience, and health that endow individuals with value. Accordingly, if individuals spend money on formal education, reading, and health maintenance in order to acquire, develop, augment, and maintain their knowledge, skill, and health, such consumption activity is considered as human capital investment. Table 1 summarizes the types of behavior included in human capital investment.

Table 1
Human Capital Investment Behaviors

Type	Objectives	Means
Acquiring/ Developing/ Maintaining	Knowledge, Skills, & Experience	Education, Reading, & On-the-job Training
Maintaining/ Augmenting	Health	Physician Visits, Dental Checkups, & Hospital Service

Method

Data and Sample Characteristics

Data for this study are from the interview component of the 1990-91 Consumer Expenditure Survey. In this study, 162 female-headed households, who participated in the survey for the full term and gave complete income information, are included as the sample. Eighty-six percent of the women are over age 30, 74.1 percent are white, 65.6 percent have a high school diploma or more, and 54.9 percent are not employed. In the sample, 30.2 percent reside in the south, 24.1 percent in the northeast, 22.2 percent in the midwest, 17.3 percent in the west, and 6.2 percent in the rural area, respectively. Most female-headed households, 74.1 percent, are renters.

Analysis

Using the OLS regression analyses, two expenditure functions are estimated in the present study. The respective dependent variables measure health care and reading/education expenditures. Expenditures on these two categories are regressed on a set of socioeconomic variables, including household income after taxes, household size, age, education, race, occupation, region, and home ownership.

Model

The theory of consumer demand suggests the basis for the empirical analysis. Human capital expenditures are assumed to be a function of income as well as tastes and preferences which will be modeled by socioeconomic characteristics. The following model is used to estimate the relationship between human capital expenditures, household income, and other household sociodemographic characteristics.

$$E_i = a + b_k Y_{ik} + gX_{ij} + u_i$$

Where

E_i = human capital related expenditures by household i

Y_{ik} = income of household i from stock k, k=1, . . k

X_{ij} = sociodemographic characteristics, household i,

u_i = error term

Selection of Dependent Variables

From the conceptual framework, to investigate the behavior of acquiring knowledge, developing skills, augmenting experience, and maintaining health through expenditure categories, the following two expenditures are empirically selected as the human capital expenditure categories.

Heath care expenditures. Since spending money on these categories is related to the behavior of maintaining one's health, this study considers such consumption categories as human capital investment. Using data from the Consumer Expenditure Survey (CES), health care expenditures include a wide range of the annual total expenses incurred in the following categories paid by the consuming unit: hospital room, hospital services, physician's services, lab tests, x-rays, nursing services, eye examinations, purchase of eyeglasses, dental care, and prescribed medicines, rental

of medical equipment, medical and medicine supplies, and purchase of medical equipment.

Reading/Education expenditures. Since the reading and education category is related to the behavior of acquiring, developing, enhancing, and maintaining one's knowledge and skills, this consumption category could be a partial explanation of the human capital investment behavior. Specifically, reading expenditures include such categories as newspaper delivery, books purchased from a book club, books and magazines purchased in stores, and magazines or periodical subscriptions. Educational expenditures involve such categories as recreational lessons or other instruction; tuition, housing, and meals while attending school; and rental of any school books, supplies, and other school-related expenses.

Selection of Independent Variables

After-tax household income. Current after-tax income is used as the income measure in the analysis. This income measure includes salary/wages, alimony/child support, and public assistance.

Household size. Household size is measured by the number of household members and is coded as a continuous variable.

Age. Age is measured by actual age of the reference person and is coded as a continuous variable.

Education. Four dummy categories of education level are created for education variable. They are less than a high school graduate, high school graduate, some college or college graduate, and advanced degree. Advanced degree is the omitted category.

Race. Two race categories are used in this study to account for possible impact of race on human capital expenditures; white and nonwhite. The white is the omitted category.

Occupation. Five occupational categories are used, including professional, managerial, service, laborer, and non-employment. Non-employment includes those who were retired, not-working, and laid-off. Non-employment is the omitted category.

Region. Five regions are included in the analysis. They are urban northeast, urban west, urban south, urban midwest, and rural region. Rural area is the omitted category.

Home ownership. Two housing tenure categories are included in this study: home owners and renters. The omitted category is the renters.

Results

A description of the female-headed household, including average household income after taxes, human capital expenditures, and other characteristics, is presented in Table 2.

Table 2
Sample Characteristics (n=162)

		Mean
After-tax household income		$16,557
Health care expenditure		$1,285
Reading/Edu expenditure		$204
Household size		2.0
Age of reference person		55
		Percent
Education		
	Less than high school	34.5
	High school graduate	34.0
	College graduate	26.0
	Advanced degree	5.0
Race	Nonwhite	25.9
	White	74.1
Occupation		
	Professional	11.1
	Managerial	16.7
	Service	8.0
	Laborer	9.3
	Non-employment	54.9
Region		
	Northeast	24.1
	Midwest	22.2
	South	30.2
	West	17.3
	Rural area	6.2
Home ownership		
	Owned home	25.9
	Rented	74.1

The average annual after-tax income is $16,557. Average annual health care and reading/education expenditures are $1,285 and $204, respectively. In terms of percentage, it is found that the female-headed households spend 1 percent of total expenditures on reading/education, while 8 percent of total expenditures is devoted to health care. Average household size and age of reference person are 2.0 and 55, respectively.

Table 3 shows results from the OLS regression analysis. Household income after taxes has a significant and positive effect on reading and education expenditures, but not on health care expenditures. In Horton's study (1978), household size had a negative effect on health care expenditure, but household size is found to have a positive effect on health care expenditure in the present study. This was expected because

additional household members would require additional health care. Although the relationship between household size and reading/education expenditures is negative, it is not statistically significant.

Table 3
Predictors of Human Capital Expenditures (n=162)

Independent Variables	Health Care	Reading & Education
CONSTANT	-711.3(1275)*	-370.7(307)
HHINCATX	-0.0(0.0)	0.0*(0.0)
HHSIZE	282.8**(141.1)	-10.6(34.1)
AGEREF	22.6**(10.7)	6.0**(2.6)
EDU1	-323.3(756.0)	-191.0(182.5)
EDU2	237.6(755.8)	-45.7(182.5)
EDU3	712.2(748.7)	-11.1(180.7)
NONWHITE	-1125.8**(409.2)	185.6*(98.8)
PROF	-498.7(596.6)	265.4*(144.0)
MANAGER	-159.2(526.3)	209.6*(127.1)
SERVICE	-368.1(623.0)	128.3(150.4)
LABORER	-651.7(624.6)	156.9(150.8)
NOREAST	-108.3(726.0)	182.1(175.3)
MIDWEST	367.5(724.6)	59.7(174.9)
SOUTH	812.5(712.6)	21.6(172.0)
WEST	126.4(734.4)	0.2(177.3)
OWN HOME	990.1**(386.3)	184.6**(93.3)
R square	0.18	0.17
F value	2.07**	1.91**

* Figures in parentheses are standard errors.
* Significant at the 0.1 level.
**Significant at the 0.05 level.

Age is a significant determinant of health care expenditures as well as of reading and education expenditures. The age of the reference person is positively related to expenditures on health care. However, finding of a positive relationship between age of the head and educational expenditures contradicts human capital theory. Since information of children's age is not available in the data set, it may be surmised that older householders who have children in high school may spend more in educational expenses than young householders who have children in preschool. Further, older women might have more time to read or purchase educational items "for fun."

In this study, education of the reference person is not a significant determinant of health care and reading/education expenditures. Being non-white is an important predictor of both health care and reading/education expenditures in this study. The regression coefficients indicate that nonwhites spend less on health care but more on reading/education than whites.

The results show that professional and managerial occupations are significant factors affecting expenditures on reading and education, while service and laborer occupations are not significant predictors of reading and education expenditures. Since occupational status might reflect one's social class, individuals in higher social class might have more access to education and reading than those in a lower social class. None of the occupational categories are significant predictors of health care expenditures.

Region is not a significant predictor of any human capital expenditure category. The results show that the northeast region has a negative impact on health care expenditures, while the other three regions have positive impacts on health care expenditures. However, none of the coefficients associated with the regional dummy variables is statistically significant.

Home ownership is a significant factor in explaining expenditures for both health care and reading and education. Female-headed householders who are homeowners spent more on health care as well as on reading and education than those who are renters.

Summary and Conclusion

Human capital is viewed as the stock of resources existing in people--their acquired skills, experience, knowledge, and health. Human capital is usually accumulated through means such as formal schooling, on-the-job training, market work, household work, and maintenance of physical and mental health. This study attempted to identify how female-headed households allocate their money income to improving personal skills, acquiring knowledge, augmenting experience, and maintaining health, and to investigate which socioeconomic factors affect such investment behavior.

The results of this study indicate that household size, age, race, and home ownership are statistically significant in predicting health care expenditures for the female-headed household. These variables are found to affect health care expenditures positively, except race. The results revealed that household income, age, race, professional occupation, managerial occupation, and home ownership are significant predictors for reading and education expenditures. All these variables also are positively related to reading and education expenditures.

Region and education of the reference person have no significant effect on either health care or reading and education expenditures. Since home ownership is a significant factor for both health care and reading and education expenditures, it can be said that home ownership is an important factor predicting the behavior of human capital investment for the female-headed

household. This finding is consistent with that of Horton's study.

The human capital theory suggests a negative relationship between age and reading/education expenditures. The positive relationship between these two found in this study might imply that older people continue to spend money on reading and education in order to maintain their human capital and thereby maximize their total wealth. As discussed earlier, a positive relationship between age of the reference person and educational expenditures might also reflect that older householders whose children are in high school have more educational expenses than young householders whose children are preschoolers. Further, the findings indicate that nonwhite female-headed households spend less on health care than white female-headed households. This may be surmised that a large portion of these nonwhite female-headed households were on welfare. Therefore, their out-of-pocket expenses on health care might be less than white female-headed households. Information on welfare receipt and further analysis are necessary.

Understanding of human capital investment behavior is important because investment for future earnings could be the determinant of the future well-being. Few studies, however, has been done in investigating such behavior because of difficulties in empirical operationalization of human capital variables and limitations in data set. Since the concepts of investment in human capital are abstract and general, almost every specification of empirical indicators are more likely to be an approximation in the present study. Furthermore, although it has been well known that not only money spent on human capital investments but also time spent on activities could have a tremendous effect on the building of human capital, data from the CES do not provide information on the time dimension. For example, parents' shared time with their children or the amount of time devoted to investing in human capital for themselves could be an important measurement for human capital investment. More complete data will be necessary for future study on human capital investment behaviors.

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Endnotes

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Do Marital Status and Presence of Children Affect Women's Wage Rate?

Applying 1985-1992 NLSY data, this study shows that marital status and number of children affected women's labor force participation as well as their wage rates. Standard OLS, Instrumental variable method, and Heckman's wage equation were estimated to address the issues of selection and endogeneity bias. Findings suggest that there is a difference for women who make the decision to work or not.

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Introduction

The labor force participation rate of married women has increased rapidly since 1960's. In 1960, about 32% of married women participated in the labor force, and this ratio increased to 59% in 1992. Meanwhile, the labor force participation rate for women with children experienced an even higher increase from about 28% in 1960 to 69% in 1992. Despite substantial changes in labor force participation, the median weekly wages of married women increased only 6% from $372 in 1985 to $395 in 1992 (both in constant 1992 dollars) (Bureau of Census, 1993). The effect of marital status and presence of children on women's wage rate has been the subject of the recent research.

The human capital theory proposed by Becker (1985) argues that, since women marry and rear children, the gender-specified responsibilities require them to devote more of their time and effort to household activities. As a result, they may choose less effort intensive jobs, devote less energy to market work, and invest less in human capital on the job, which in turn will lower their productivity and earnings. Various studies (Mincer and Polachek 1974, Hill 1978, Dolton and Makerpeace 1987, Korenman and Neumark 1991, and Neumark and Korenman 1994) have concluded that due to child related household work, women with children acquire less human capital on the job and consequently obtain lower wage rates than their male counterparts.

Therefore, the primary purpose of this study is to examine three questions: (1) Do marital status and presence of children affect women's labor force participation? (2) Of those who do participate in the labor force, do married women, especially those with children, have relatively lower wage rates compared with single, divorced or separated counterparts? (3) In consistent with Becker's human capital theory, does human capital accumulation increase women's labor force participation and in turn raise their wage rates? The empirical work requires considerations of simultaneity and selectivity issues. In particular, the paper controls for endogeneity and determines the importance of selection by comparing estimates from the Heckman procedure to those from standard OLS procedure.

Review of Literature

Based on the data from the ninth wave of the Panel Study of Income Dynamics, Hill (1978) suggested that number of children was better than marital status as a measure of women's human capital. OLS regression results indicated that, controlling for various job qualification variables, workers with higher financial responsibilities to their families tended to have higher wage rates.

Following Hill (1978), Dolton and Makerpeace (1987) examined the effect of marital status and child rearing on women's earnings in the graduate labor market by using 1977 UK survey data. The results suggested that women's decision to participate in the labor force was affected by both of their marital status and presence of children. When controlling for job participation, female earnings were affected only by presence of children but not marital status. The wage rate equation further indicated that women with children could lower their wages as much as 25%.

The more recent study on marriage, motherhood, and wages by Korenman and Neumark (1992), concluded that children lower wages directly by curtailing their mothers' labor supply and hence the accumulation of tenure and work experience. Using 1982 NLSY data, the result supported previous research that women's wage rates were affected by the presence of children. However, they treated marital status and number of children as the exogenous determinants of wage rates.

Based on their previous study, Neumark and Korenman (1994) analyzed the sources of bias in women's wage equation using 1982 NLSY data. The results showed statistically significant biases in OLS estimates of wage equations for white and black women. Instrumental variable approach was then employed and the findings indicated a significant and negative impact of number of children on women's wage rate. There was evidence of upward bias in the estimated return to schooling for both white and black women.

Nakamura and Nakamura (1994) studied women's labor supply based on 1970 and 1980 U.S. Census of Population data. The instrumental variable estimation was used to correct potential endogeneity of child status to women's labor supply. The results indicated that married and childless women supplied less labor than that of unmarried and childless women. Furthermore, labor supply was the lowest for the married women with children.

In summary, the papers in this literature indicate that marriage has an insignificant effect on women's wages. In contrast, children appear to significantly affect wage rate by decreasing their mother's labor force participation and the accumulation of human capital. However, there lack studies to control for selection issue and endogeneity problem simultaneously.

Theoretical Background

In order to explain the effect of human capital investment on job earnings, Becker (1985,1993) stated that education and training are the two most important investments to raise a person's income, i.e., a worker increases his/her productivity by learning new skills and perfecting old ones. However, future productivity can be improved only at costs of training, which includes the value placed on time and effort of trainees.

Since the incentive to invest in human capital is positively related to the time spent on that activity, a model of the allocation of energy (or effort) between market and nonmarket activities was developed by Becker (1985), in which households are assumed to maximize utilities by allocating time and individual endowments efficiently among different members. Investments in specialized human capital would enhance the comparative advantages of household members and produce increasing returns. Thus, the household would be better off if the wife who has a comparative advantage in household work invests her human capital in household work, while her husband allocates more of his time to market work.

The allocation of effort in the household production function reinforces the division of labor and therefore lower women's human capital investment in the market. Since child care and housework are more effort intensive than leisure and other household activities, married women would spend less energy on each hour of market work than married men. As the result, married women have lower hourly wage rate than married men. Becker's human capital theory provides the economic basis for analyzing the effect of marital status and presence of children on women's wage rate. As more and more women participate in the labor force, married women or single mothers with children should have more incentives to invest in market human capital in order to obtain an increase in their earnings.

Methodology

In this study, the wage rate is estimated using the following equation:

> Wage rate = f(age, region, education, marital status, number of children, age of the youngest child, tenure, urban or rural,occupation, collective bargaining)

The wage rate estimation requires the consideration of sample selection. The issue is that women self select into the labor force. Unobservable characteristics which affect the decision to participate in the labor force may also affect the wage rate. For example, high ability women may be more likely to work in the paid labor force than low ability women; consequently, wage rates may be biased upward. Also, due to the financial responsibilities, single mothers may participate in the labor force and obtain higher wages to support the households, which again biases wage rate upward. According to Becker's (1981) economic theory of marriage and fertility, marital status and number of children may be endogenous with respect to wage rates. Therefore, the issues of selection and endogeneity are discussed in this section and addressed in the estimation procedure.

<u>The selection issue</u>

To correct sample selection bias, Heckman's (1974) standard sample selection model is employed. The wage equation is given below:

$$W = \beta_0 + \beta_1 X + \beta_2 P + \epsilon \qquad (1)$$

where W is the wage rate, X is the matrix of explanatory variables, and ϵ is a vector of unobservables.

Willingness to participate in the labor force is given by:

$$P^* = Z\delta + v \qquad (2)$$

where P^* is the utility from working, Z is a matrix of explanatory variables, and v is a vector of unobservables. A woman participates in the labor force, i.e. $P_i=1$, if $P^* \geq 0$; and she does not participate, i.e. $P_i=0$, if $P^*<0$. Because women self select into the labor force, OLS estimation of equation (1) is likely to yield biased estimates. In particular, Heckman (1974) shows that the expected value of the error term in equation (1) is:

$$E(e_i|X_i) = cov(e, v) \cdot \frac{p(Z\delta)}{\Phi(Z\delta)} \cdot ch \qquad (3)$$

where $h = \varphi(Z\delta)/\Phi(Z\delta)$. To address this problem, h is added as an additional regressor to equation (1). This additional term, known as the Heckman correction term, is constructed using estimates of the labor force participation equation. Probit analysis is employed to estimate the parameters of the labor force participation equation. The likelihood function is given below:

$$L = \Pi_{P_i=1} Prob(Z_i\delta + \gamma_i > 0) \Pi_{P_i=0} Prob(Z_i\delta + \gamma_i \leq 0) = \Pi_{P_i=1} Prob(\Phi(Z_i\delta)) \Pi_{P_i=0} Prob(\Phi(-Z_i\delta)) \qquad (4)$$

The estimated value of h is:

$$\hat{h} = \frac{p(Z\hat{\delta})}{\Phi(Z\hat{\delta})} \qquad (5)$$

$$Var(\hat{h}) = \frac{\partial h'}{\partial (Z\delta)} \cdot Z \cdot Var(\hat{\delta}) \cdot Z' \cdot \frac{\partial h'}{\partial (Z\delta)} \qquad (6)$$

The new model, which will be estimated using OLS, is:

$$W = \beta X + c\hat{h} + \omega \qquad (7)$$

where $E(\omega | X, P, h)=0$. The usual OLS standard errors are inconsistent due to the heteroskedasticity imposed by the Heckman correction term. Consequently, the variance-covariance matrix employed is:

$$Var(\hat{\beta}) = (X'X)^{-1} (c^2 Var(\hat{h}) + Var(\omega)) X(X'X)^{-1} \qquad (8)$$

The endogeneity problem

Endogeneity bias may arise if marital status, divorce status, and number of children are simultaneously determined along with wages. For example, women upon marriage may devote more of their time and energy to household work and consequently obtain lower wages. The bias thus comes from the correlation between the independent variable, marital status, and residual ϵ.

Instrumental variables (IV) method was employed to deal with endogeneity of marital status, number of children, and wage rates (Korenman and Neumark, 1992). The instrumental variables fall into two categories: family background variables, including parents' religion and their marital status; respondents' attitudes and expectations, including attitude toward working, attitude toward marriage, and expected number of children. Korenman and Neumark (1992) reported that using family background variables and expectation variables are valid instruments, which are uncorrelated with error terms but correlated with marriage, divorce, and fertility decisions.

Data Descriptions

The data analyzed in this study are drawn from 1985-1992 National Longitudinal Survey of Youth (NLSY). The sample includes women who were age 25 to 35 and exhibited no health limitations for job participation during the survey years. The chosen age range captures women's marital status and fertility transitions as well as their labor market experience. Hill (1978) and Fan (1993) reported the existing wage differences among races, therefore only white women are included in the analysis. After deleting missing values and ineligible observations, the sample size is 6382.

In the first stage probit estimation, the dependent variable is the probability that women participate in the job market. The independent variables include a set of social demographic variables, such as, age, household income, marital status, number of children, age of the youngest child, region, and urban/rural area; human capital variable of education level; expectation variable of willingness to work; enrollment status variable of school enrollment; and labor market variable of local unemployment rate. Year dummy variables are introduced as the independent variables to capture the system differences in the pooled sample.

Table 1
Descriptive statistics for some variables used in the regression analysis 1985-1993, n=6382

Vars.	Marital status: Never married	Married /spouse	Divorced /sep.
Age	27.8	29.0	28.9
	(2.35)	(2.51)	(2.54)
Hourly wage rate	11.68	14.81	9.57
	(5.78)	(32.28)	(4.28)
Hrs work/wk	16.6	10.8	17.8
	(27.09)	(19.52)	(26.02)
Income	14,037	44,69	115,450
	(11,283)	(76,554)	(12,249)
Pres. of children			
# of children	1.36	1.80	1.67
	(0.65)	(0.83)	(0.76)
Age of youngest child	3.98	3.51	5.62
	(3.29)	(3.35)	(3.44)
Educ. level			
<high school	21.94%	9.40%	21.04%
=high school	52.04%	52.45%	55.48%
<college	18.59%	20.27%	19.89%
>=college	7.43%	17.88%	3.59%
Under collect. bargaining	20.13%	22.20%	24.42%
Professional (vs. not)	13.18%	21.91%	27.15%
Region			
North east	20.82%	18.64%	12.45%
North central	38.29%	31.96%	29.27%
West	20.07%	14.76%	22.17%
South	20.82%	34.63%	36.11%
Sample size	269	4972	1141

Note: wage rate and income were inflated to 1992 dollars.

Log hourly wage rate is used as the dependent variable in the second stage wage rate equation. The independent variables include the same set of social demographic variables except income, education variables, and year dummy variables as that used in the first stage. Moreover, human capital variables; i.e., tenure, working hours per week, and occupation of the respondents; and a labor market variable, i.e., collective bargaining, are included.

Descriptive statistics, by marital status, are presented in Table 1. Married women have the highest mean hourly wage rate of $14.81; in comparison, the average hourly wage rate for divorce or separated women is the lowest at $9.57. Never married and divorced or separated women spent more hours in the labor force per week than married ones. Married women had an average of 1.8 children compared to 1.3 children for never married women. More than half of the women in each group got a high school diploma. However, only about 4% of divorced or separated women earned a college degree or more.

Results and Discussions

Labor force participation

Probit analysis in Table 2 suggested that presence of children is an important factor to determine women's labor force participation. When controlling other variables, a greater number of children is significantly related to the higher rate of labor force participation. This observed pattern is probably due to the increased financial responsibilities of having children (Hill, 1978). The age of the youngest child has a negative relationship with women's labor force participation, which is contradictory to the previous findings. Consistent with the study by Hill (1978), marital status does not show a significant relationship with women's job participation rate.

As expected, human capital variables significantly explain the decision of women's labor force participation. Women who attain higher levels of education are more likely to be in the labor force than those with lower levels of education. High local unemployment rate (where high is defined as unemployment ratio greater than 12%) significantly decreases the probability of women's labor force participation.

Wage rate estimation

Column (1) of Table 3 reports the OLS regression of log wages on the set of explanatory variables. Both number of children and age of the youngest child have significantly negative effect on women's wage rates. As reported by Bloom (1987), given the age restriction (25-35) of the sample, the women who are relatively "late" child bearers tend to be relatively high wage earners. Human capital variables of education and tenure have highly significant effect on women's earnings. As expected, women who have at least high school degrees tend to earn more than those without high school diplomas. Moreover, the effect of education on wage rate is the largest for those who get college degree or more. Women who work at professional jobs tend to earn more than those working in other occupations. The labor market variable of collective bargaining significantly increases women's wage rate when holding other variables constant.

Marital status, divorce status, and number of children were treated as endogenous variables in the IV estimation as shown in column (2) of Table 3. An important finding is that married women earned a

Table 2
Result of Probit analysis - Probability of women's labor force participation 1985-1992, n=6382.

Explanatory vars.	Coef.	Std.D.
Age	-0.0113	0.0093
income	1.1E-7	2.48E-7
Region (vs. South)		
North east	-0.0025	0.0514
North ctl.	-0.0303	0.0427
West	0.0165	0.0538
Marital status		
(vs. never married)		
married	-0.0473	0.0680
div./sep.	0.0019	0.0946
Edu. level		
(vs.< high sch.)		
=High sch.	0.3250	0.0543***
<college	0.4241	0.0655***
>=college	0.2409	0.0722***
Urban		
(vs. rural)	0.0052	0.0398
Local unemply. rate		
(vs. low<6%)		
High (>12%)	-0.1666	0.0843*
Average		
(6%-12%)	-0.0750	0.0394
Pres. of child.		
# of children	0.0778	0.0218***
age of youngest child	0.0426	0.0058***
Enrollment stat.		
High sch.	-0.3152	0.3957
College	-0.2141	0.0793**
Willing to work	0.0184	0.0411
constant	-0.2419	0.5234
Log likelihood test	-3635.21*	

Note: dummy year variables of year 1986, year 1987, year 1988, year 1989, year 1990, year 1991, and year 1992 (omitted one is year 1985) were not significant and are not shown in the table.
* significant at 0.05 level
** significant at 0.01 level
*** significant at 0.001 level

significantly lower market wage than their never married counterparts. This is comparable with Becker's hypothesis (1985) that marriage tends to have a negative impact on women's earnings. However, this conclusion is not captured when using OLS regression. Both IV and OLS show that number of children is negatively related to women's market wage rate, but the magnitude of the change is much higher (0.7929) by using IV than by using OLS (0.0376).

Column (3) of Table 3 shows the results of Heckman second stage wage rate estimation. When taking selection bias into account, number of children has a statistically insignificant, though negative, effect on the wage rate. Meanwhile, the coefficient on the Heckman correction term is statistically significant and positive. In particular, the finding suggests that the unobservables in the labor force participation equation are positively correlated with the unobservables in the wage rate equation. Thus, women who are more likely to work are the ones who earn higher wages.

Conclusions and Implications

The findings suggest that marital status does not explain women's labor force participation. Moreover, women who have higher financial responsibilities (e.g., more children) are more willing to work.

Wage differences across women are mainly caused by human capital variables, i.e. education and work experience, and the labor market variable of collective bargaining. The effect of marital status and number of children on wage rates seems complementary with respect to OLS, IV, Heckman, and Heckman with IV.

(1) OLS alone finds that having more children decreases women's productivity due to the fact that women need to allocate more of their time and energy to child related household work. However, there is no evidence of detrimental wage effect caused by women's marital status.

(2) When controlling for endogeneity of marital status, divorce status, and number of children, marriage does show a significant effect on wages. Married women tend to have a lower market wage than never married counterparts.

(3) The Heckman correction term is significant in the wage rate equation, which suggests that there is a difference for women who make the decision to work or not. The findings suggest that women who work either require higher wages or have higher ability levels, or both.

In general, the family is veiwed as an economic unit which shares consumption and allocates production between market and nonmarket activities. In this view, the division of labor emerges due to differential skills with which family members are endowed. In the short period of time, the endowments can be taken as given. From the long run perspective, individual endowments are not merely genetic, they can be augmented by the investment in human capital.

Indeed, the results of this study show that human capital variable significantly explains women's labor force decision as well as their earnings. Women are

Table 3
Log wage rate estimation by OLS, IV, Heckman, and Heckman with IV 1985-1992. n=4885.

Exp. vars	Standard OLS	IV[1]	Heckman[2]	Heckman with IV[3]
Age	0.0106**	0.0622	0.0072	0.0635
	(0.0040)	(0.0223)	(0.00128)	(0.0816)
Region (vs. South)				
North east	0.1232***	0.2082***	0.1227	0.2120
	(0.0219)	(0.0341)	(0.0657)	(0.1310)
North ctl.	-0.0279	0.1043*	-0.0159	0.1354
	(0.0184)	(0.0455)	(0.0538)	(0.1715)
West	0.1119***	0.2240***	0.1121	0.2291
	(0.0227)	(0.0313)	(0.0679)	(0.1209)
Educ.level (vs.<highs)				
= High sch.	0.1019***	-0.1003	-0.0020	-0.3074
	(0.0253)	(0.0596)	(0.0858)	(0.2348)
< College	0.2504***	-0.0632	0.1175	-0.3361
	(0.0296)	(0.1020)	(0.1026)	(0.3890)
>= College	0.3988***	-0.0949	0.3217**	-0.2865*
	(0.0346)	(0.1540)	(0.1066)	(0.5700)
Urban vs. rural	0.0713***	-0.0600	0.0636	-0.0896
	(0.0168)	(0.0527)	(0.0495)	(0.1969)
Marital stat. (vs. single)				
Married	0.0166	-0.9293***	0.0314	-0.9492*
	(0.0374)	(0.1605)	(0.1090)	(0.4847)
Div./sep.	0.0348	-0.5662**	0.0347	-0.5497
	(0.0401)	(0.1954)	(0.1180)	(0.5741)
Pres. of child.				
# of children	-0.0376***	-0.7929**	-0.0117	-0.8211
	(0.0100)	(0.2722)	(0.0314)	(1.0087)
Age of youngest child	-0.0084***	-0.0040	-0.0208*	-0.0295*
	(0.0024)	(0.0024)	(0.0081)	(0.0144)
Professional (vs. other)	1.0395***	1.0142***	1.0396***	-0.9955***
	(0.0580)	(0.0570)	(0.1483)	(0.1883)
Tenure (year)	0.1790***	0.1478***	0.1787***	0.1428***
	(0.0137)	(0.0136)	(0.0411)	(0.0526)
Collect. bargain	0.1777***	0.1590***	0.1797**	0.1639
	(0.0224)	(0.0220)	(0.0674)	(0.0851)
Working hrs/wk(vs.<35)	0.0046			
	(0.0303)	0.0171	0.0040	0.0136
35-40 hrs		(0.0297)	(0.0882)	(0.1114)
	-0.0592*	-0.0431	-0.0598	-0.0442
over 40 hrs	(0.0247)	(0.0242)	(0.0710)	(0.0896)
	-	-	1.6894**	3.0672*
λ	-	-	(0.0467)	(1.3573)
IVs				
Fam. background vars.	No	Yes	No	Yes
Exp./attitude vars.	No	Yes	No	Yes
constant	5.1423***	5.9830***	4.2594***	4.3721***
	(0.1216)	(0.2630)	(0.4941)	(0.3688)
Adj. R^2	0.3013	-	0.3017	-

Note: Dummy year variables year 1985 year 1986 year 1987 year 1988 year 1989 year 1990 year 1991 year 1992 did not show a significant impact on Log wage rate. [1]. IV estimates allows marital status, divorce status, and number of children as the endogenous variables. [2]. White standard errors were shown in the parentheses. [3]. Marital status, divorce status, and number of children were treated as endogenous variables and with standard errors were shown in parentheses.

* significant at 0.05 level
** significant at 0.01 level
*** significant at 0.001 level

increasingly the sole support of families either because of marital disruption or nonmarital fertility, which may consequently result in a higher rate of poverty or near poverty among female headed families. The investment in market human capital increases women's earnings and thus improves their future economic status.

It is important for public policy makers to know that improved access to child care might reduce some of women's housework burden and increase their chance to be in the labor force. At the same time, consumer educators should advise women to obtain more education and job training so that they have better chance to get employed or higher wage rates.

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Endnotes

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The Impact of the Expanded Earned Income Tax Credit on Work Incentives for Welfare Recipients in North Carolina

In 1993, the earned income tax credit (EITC) was expanded in order to increase work incentives for low-income households. This paper examines the extent to which the expanded EITC will improve work incentives for welfare recipients. A long-standing problem in welfare programs is the high rate at which benefits are reduced when recipients earn more income. The research finds that the expanded EITC improves work incentives for welfare recipients earning very little income. However, implicit tax rates for recipients still remain high, especially when work and child care costs are included.

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Introduction

Reforming the welfare system is receiving increasing attention. One of the goals of many proposed reforms is to encourage more market work by welfare recipients. A problem in the current system is the apparent high implicit tax rates on earnings (see Albrecht and Pogne; Fearn; Frater, Moffitt, and Wolf; Moffitt, 1979, and Moffitt, 1986). An implicit tax rate is the proportionate reduction in earnings that occurs when earnings increase. The implicit tax rate on earnings occur as a result of three factors: (1) income and Social Security taxes on earnings, (2) expenses related to working and child care, and (3) the reduction in welfare program benefits when earnings increase. The last factor can be particularly significant for households receiving benefits from multiple programs.

In part to reduce the implicit tax rates on earnings for welfare recipients and other low income households, the federal government expanded the federal earned income tax credit (EITC) beginning in 1994. The EITC is a reduction in federal income taxes for low income households with labor earnings. The EITC is also a form of a "negative income tax" in that, if the EITC reduces the household's tax liability to less than zero, the negative tax liability is paid to the household. In 1993 Congress increased the size of the EITC. The increased generosity of the EITC will be phased in over the 1994-96 period.

There are three objectives of this paper. First, the paper will analyze benefits received by a typical welfare household in North Carolina and show how the benefits change as the household's earnings increase. An important aspect of meeting this objective is the modeling of interactions among different welfare programs. Second, implicit tax rates will be calculated for 1993, the year before the increased EITC, and for 1996, the year when the more generous EITC will be fully implemented, for selected ranges of earnings. In this way, the impact of the increased EITC on implicit tax rates can be examined. Third, the paper will explore the degree to which the new EITC alters incentive programs in the system of social support programs.

The paper has five sections including the introduction. In the second section, the welfare programs are described, particularly with respect to how benefits change as the recipient's earned income changes. Taxes and the EITC are described in the third section, and other costs related to working are discussed in the fourth section. The fifth section presents calculations of implicit tax rates for 1993 and 1996.

Brief Descriptions of Welfare Programs

In this section key elements of the four major welfare programs, Aid to Families with Dependent Children (AFDC), Food Stamps, housing assistance, and Medicaid, are described. Equations are presented for the calculation of benefits with special attention to how benefits change with the recipient's earned income.

AFDC

The Aid to Families with Dependent Children program is the primary cash welfare program. Cash benefits are paid monthly to eligible households. States set the eligibility rules and the cash benefits.

In North Carolina, the formulas for calculating monthly AFDC benefits (AFDCBEN) are:

(1) AFDCBEN = .50 * [NEEDSTD - (.67 * EARNINGS - $120)] for the first four months of eligibility,

(1A) AFDCBEN = .50 * [NEEDSTD - (EARNINGS - $120)] for the next eight months of eligibility, and

(1B) AFDCBEN = .50 * [NEEDSTD -

(EARNINGS - $90)] for the other months of eligibility, where:

NEEDSTD = need standard, and

EARNINGS = earned income.

"NEEDSTD" is established by the North Carolina General Assembly and varies by household size. The $120 and $90 deductions are for work expenses. Additionally, the recipient has the option of taking another deduction for child care expenses or having child care expenses paid by the state.

Food Stamps

Food stamps support the purchase of food by eligible households. The monthly food stamp amount equals the difference between the "monthly thrifty food plan dollar amount" for the household's size and some fraction of the household's net monthly income. In North Carolina, the specific formula is:

(2) FOODSTP = THRIFTFD - .30 * [EARNINGS + AFDCBEN - .20 * EARNINGS - $122 - DEPDED - MEDDED - HSGDED], where:

THRIFTFD = monthly thrifty food plan dollar amount,

DEPDED = dependent person deduction,

MEDDED = unreimbursed medical expense deduction, and

HSGDED = shelter deduction.

Housing Assistance

Eligible households receive housing assistance equal to the difference between rent and 30 percent of monthly adjusted income. Households with incomes less than 50 percent of the median household income of the area are eligible. Monthly adjusted income includes income from earnings, asset earnings, AFDC benefits, alimony and child support, the earned income tax credit that exceeds tax liability, reimbursements of medical expenses, and income from educational scholarships. Therefore, the equation for housing assistance is:

(3) if ADJY < .50 * MEDY then HSGBEN = RENT - .30 * [EARNINGS + ASSETY + AFDCBEN + NETEITC + OTHERY], for HSGBEN > 0, otherwise HSGBEN = 0, where:

ADJY = adjusted income as defined above,

MEDY = area household medianincome,

HSGBEN = housing assistance payment,

RENT = shelter rent,

ASSETY = asset earnings,

NETEITC = earned income tax credit minus federal income tax liability; if < 0, NETEITC is 0, and OTHERY = other income counted by the housing assistance program.

Medical Assistance

Medicaid is a program that pays the medical bills for eligible low income households. Payments are made directly to the provider; no money is paid to eligible households.

Households eligible for AFDC are eligible for Medicaid. In addition, households with incomes below the poverty level are eligible for Medicaid. Since Medicaid pays medical bills as long as the household is eligible, there is no loss of Medicaid benefits with higher earned income until the household's income exceeds the poverty level.

Taxes and the Earned Income Tax Credit

A household with earned income is subject to Social Security taxes, federal income taxes, state income taxes (in North Carolina), and may be eligible for the earned income tax credit.

The formula for the household's contribution to Social Security (SOCSECTX) is straightforward:

(4) SOCSECTX = SOCSECRT * EARNINGS for earned income under the limit taxed by Social Security, where:

SOCSECRT = the Social Security tax rate.

Federal income taxes are based on the household's taxable income, applicable tax rates, and child care tax credit for eligible households. Assuming the household doesn't itemize deductions and has no taxable income from sources other than earnings, taxable income equals earnings minus the standard deduction and minus personal exemptions. The size of the standard deduction depends on the tax status of the household (e.g., single or head of household). Taxable income is then broken into the income ranges of each tax bracket and taxed at the corresponding tax rate.

Households paying child care expenses are eligible for the federal child care tax credit. The credit is a given

percentage of the lesser of the household's earnings and the household's child care expenses. The percentage falls as the household's earnings/expenses rise.

Federal income taxes (FEDYTAX) are therefore calculated as:

(5) FEDYTAX = [EARNINGS - STDDED - EXEMPTS] * FEDRT - FCHDCRED, where:

STDDED = the federal standard deduction,

EXEMPTS = the federal personal exemptions for the household,

FEDRT = the federal income tax rate, and

FCHDCRED = the federal child care credit.

The federal child care credit is calculated as:

(5A) FCHDCRED = FCHDRATE * [min (EARNINGS, CHDSPEND)] if the household has child care expenses, where:

FCHDRATE = the federal child care rate, and

CHDSPEND = child care expenses.

Note that in equation (5), if taxable income (EARNINGS - STDDED - EXEMPTS) is large enough, it will be subdivided into segments, and each segment will be taxed at the appropriate marginal tax rate.

In North Carolina, state income taxes are based on federal taxable income. First, an adjustment is made to federal taxable income to account for the differences between federal and state standard deductions and personal exemptions. Then, the state income tax rate is applied to state taxable income. Last, if the household has child care expenses, a state child care credit is subtracted. The state child care credit is a percentage of the eligible federal child care expenses. The equation for state income taxes (STYTAX) is thus:

(6) STYTAX = [EARNINGS - STDDED - EXEMPTS + NCADJUST] * STATERT - SCHDCRED,

where:

NCADJUST = the North Carolina adjustment to federal taxable income,

STATERT = the North Carolina income tax rate,

and

SCHDCRED = the North Carolina child care credit.

The North Carolina child care credit is calculated as:

(6A) SCHDCRED = SCHDRATE * [min (EARNINGS, CHDSPEND)] if the household has child care expenses, where:

SCHDRATE = the North Carolina child care rate.

As mentioned in the introduction, the earned income tax credit (EITC) is the federally financed program designed to encourage additional work by low income households. The EITC does this by providing a tax credit to low income households based on additional earned income. The EITC is credited to a household regardless of the household's tax liability. This means the EITC can become additional income to a household if the household's tax liability is zero or very low.

The formula for the calculation of the EITC is:

(7) EITC = [EITCPC * min (EARNINGS, EITCMAXY)] - [(EARNINGS -PHOUTAMT) * PHOUTPC], where:

EITCPC = the EITC percentage,

EITCMAXY = EITC maximum earned income,

PHOUTAMT = the phaseout amount, and

PHOUTPC = the phaseout percentage.

EITCPC, PHOUTAMT, and PHOUTPC are established by legislation. The EITC percentage is applied to the lesser of the household's earnings and the "EITC maximum earned income". The EITC maximum earned income is also established by legislation. Table 1 gives the EITC parameters as established by the federal tax legislation of 1993. The dollar amounts listed in the table are indexed for inflation beginning after 1994.

Work and Child Care Costs

There are two potential expenses associated with working. One is transportation, clothing, and related expenses. I call these "work costs". The second is child

Table 1
EITC Parameter Values.

Year	EITCPC	EITCMAXY	PHOUTAMT	PHOUTPC
1993	19.5%	$7,750	$12,200	13.93%
1994	30.0%	$8,425	$11,000	17.68%
1995	36.0%	$8,425	$11,000	20.22%
1996	40.0%	$8,424	$11,000	21.06%

care costs if those costs are not covered by any assistance program.

Assumptions must be made in modeling these costs. I assume work costs are a given percentage of the household's earnings up to some maximum, that is:

(8) WORKCTS = WORKRT * EARNINGS, if WORKCTS) MAXWKCTS, then WORKCTS = MAXWKCTS, where:

WORKCTS = work costs,

WORKRT = work costs as a percent of earnings, and

MAXWKCTS = maximum work costs.

In North Carolina, child care costs are paid by the state if the household is an AFDC recipient. If the household's earnings are high enough so it is ineligible for ADFC, then it is assumed that child care costs are a given percentage of the household's earnings up to some maximum, that is:

(9) CARECTS = 0 if AFDCBEN) 0, else CARECTS = CARERT * EARNINGS, if CARECTS) MAXCRCTS, then CARECTS = MAXCRCTS, where:

CARECTS = child care costs,

CARERT = child care costs as a percent of earnings, and

MAXCRCTS = maximum child care costs.

Simulations and Implicit Tax Rates

In this section, I describe the simulations run to derive implicit tax rates for a typical household receiving assistance, and present the implicit tax rates for 1993 and 1996.

The typical household used for the simulations is a single mother with two children. The nominal parameter values used are for 1993, and their real values are assumed to be maintained for 1996. Parameter values are presented in annual terms. The parameter values that are constant in the simulations are presented in the following list:

NEEDSTD = $6,528

THRIFTFD = $3,504

MEDY = $3,678

RENT = $5,472

SOCSECRT = .0765

STDDED = $3,700 for a single household

STDDED = $5,450 for a head of household

EXEMPTS = $2,350

FEDRT = for single household: .15 for taxable income of $21,488 and under, .28 for higher taxable income = for head of household: .15 for taxable income of $29,600 and under, .28 for higher taxable income.

FCHDRATE = .30 if min [EARNINGS, CHDSPEND] < = $10,000 = .29 if $10,000 < min [EARNINGS, CHDSPEND] < = $12,000 = .28 if $12,000 < min [EARNINGS, CHDSPEND] < = $14,000 = .27 if $14,000 < min [EARNINGS, CHDSPEND] < = $16,000 = .26 if $16,000 < min [EARNINGS, CHDSPEND] < = $18,000 = .25 if $18,000 < min [EARNINGS, CHDSPEND] < = $20,000 NCADJUST = $1,750 for a single household = $2,100 for a head of household.

STATERT = for single household: .06 for taxable income of $12,750 and under, .07 for higher taxable

income = for head of household: .06 for taxable income of $17,000 and under, .07 for higher taxable income.

SCHDRATE = .07

WORKRT = .10

MAXWKCTS = $1,200

CARERT = .20

MAXCRCTS = $4,200

Two tables are next presented. Tables 2 and 3 present the results using the 1993 EITC parameters. Similar tables are not presented using the 1996 EITC parameters, but their impacts are shown in Figures 1 through 6. Implicit tax rates are calculated based on three alternative measures of disposable income. The first measure (DISPOSY1) includes earnings, the earned income tax credit, benefits from AFDC and food stamps, and subtracts Social Security, federal income, and state income taxes. The second measure of disposable income (DISPOSY2) takes the first measure and also subtracts work expenses and child care expenses. The third measure of disposable income (DISPOSY3) takes the second measure and adds housing assistance and Medicaid benefits. In equation form, the three disposable income measures are:

(10) DISPOSY1 = EARNINGS + EITC + AFDCBEN + FOODSTP - SOCSECTX - FEDYTAX - STYTAX,

Table 2
Annual Benefits, Taxes, Costs, and Disposable Incomes Under 1993 EITC Rules, Adult and 2 Children

EARNINGS	EITC	AFDCBEN	FOODSTP	MEDICAID	HOUSING	SOCSECTX	FEDYTAX	STYTAX	WORKEXP	CHDEXP	DISPOSY1	DISPOSY2	DISPOSY3
$ 0	$ 0	$3,804	$3,144	$3,312	$4,331	$ 0	$ 0	$ 0	$ 0	$ 0	$6,948	$6,948	$14,591
2,000	190	2,804	3,069	3,312	3,914	153	0	0	200	0	8,210	7,910	15,126
4,000	780	1,804	2,774	3,312	3,497	306	0	0	400	0	9,752	9,652	15,461
6,000	1,170	804	2,479	3,312	3,080	459	0	0	600	0	9,394	9,194	15,786
8,000	1,511	0	2,859	3,312	2,629	612	0	0	800	1,600	11,758	9,358	15,289
10,000	1,511	0	2,463	3,312	2,319	765	0	0	1,000	2,000	13,209	10,209	15,540
12,000	1,511	0	1,923	3,312	1,419	918	0	12	1,200	2,400	14,504	10,904	15,635
14,000	1,261	0	1,260	0	894	1,071	0	104	1,200	2,800	15,446	11,446	12,140
16,000	882	0	795	0	177	1,224	0	196	1,200	3,200	16,357	11,957	12,235
18,000	703	0	199	0	0	1,377	8	288	1,200	3,600	17,230	12,427	12,427
20,000	425	0	0	0	0	1,530	0	296	1,200	4,000	18,599	13,199	13,199
22,000	146	0	0	0	0	1,683	165	402	1,200	4,200	19,896	14,496	14,496
24,000	0	0	0	0	0	1,836	465	522	1,200	4,200	21,177	15,777	15,777
26,000	0	0	0	0	0	1,989	765	642	1,200	4,200	22,604	17,204	17,204
28,000	0	0	0	0	0	2,142	1,065	768	1,200	4,200	24,025	18,625	18,945
30,000	0	0	0	0	0	2,295	1,365	908	1,200	4,200	25,432	20,032	20,312

Rounded to the nearest dollar

Table 3
Implicit Tax Rates Under 1993 EITC Rules, Adult and 2 Children.

EARNINGS	DISPOSY1	DISPOSY2	DISPOSY3
$ 2,000	41.9%	51.9%	72.8%
4,000	52.9	62.9	83.8
6,000	52.9	62.9	83.8
8,000	11.8	101.8	124.9
10,000	27.5	57.5	87.5
12,000	35.3	65.3	95.3
14,000	52.9	72.9	264.8
16,000	54.5	74.5	100.3
18,000	54.5	76.4	95.3
20,000	31.6	51.6	51.6
22,000	35.2	45.2	45.2
24,000	35.6	35.6	35.6
26,000	28.7	28.7	28.7
28,000	29.0	29.0	29.0
30,000	29.7	29.7	29.7

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(11) DISPOSY2 = EARNINGS + EITC + AFDCBEN + FOODSTP - SOCSECTX - FEDYTAX - STYTAX - WORKCTS - CARECTS, and

(12) DISPOSY3 = EARNINGS + EITC + AFDCBEN + FOODSTP + SOCSECTX - FEDYTAX - STYTAX - WORKCTS - CARECTS + HOUSING + MEDICAID.

Table 2 presents benefits, taxes, costs, and disposable incomes for the one adult, two children household under the 1993 EITC rules. The EITC increases until $12,000 (the phaseout amount is $12,200) and then declines. AFDC benefits decline at the rate of 50 cents for every dollar of increased earnings and end at earnings of $8,000. Food stamp benefits show a curious pattern. They decline until earnings of $6,000, then rise for earnings of $8,000, then gradually decline until reaching zero at earnings of $20,000. The reason for the discontinuity between earnings of $6,000 and $8,000 is the ending of AFDC benefits at earnings of $6,000. When AFDC benefits end, the household begins paying child care expenses. Since these expenses are a deduction in the food stamp benefit calculation, food stamp benefits take a jump when the child care expenses are triggered.

The net benefits to the household of more earnings can be determined by examining changes in the alternative measures of disposable income in Table 2, but a better way is to study implicit tax rates in Table 3. Implicit tax rates are the percentage of the household's increase in earnings NOT resulting in an increase in disposable income. Specifically, implicit tax rates are calculated as:

(13) IMPLTXRT(i) = {1 - [(DISPOSY(i) - DISPOSY(i-1))/(EARNINGS(i) - EARNINGS(i-1))]} * 100, where:

IMPLTXRT(i) = implicit tax rate in moving from EARNINGS(i-1) to EARNINGS(i),

DISPOSY(i) = disposable income at EARNINGS(i),

DISPOSY(i-1) = disposable income at previous earnings level, EARNINGS (i-1),

EARNINGS(i) = earnings at level i, and EARNINGS(i-1) = earnings at previous level.

Figure 1. DISPOSY3, 1993 and 1996 EITC Rules.

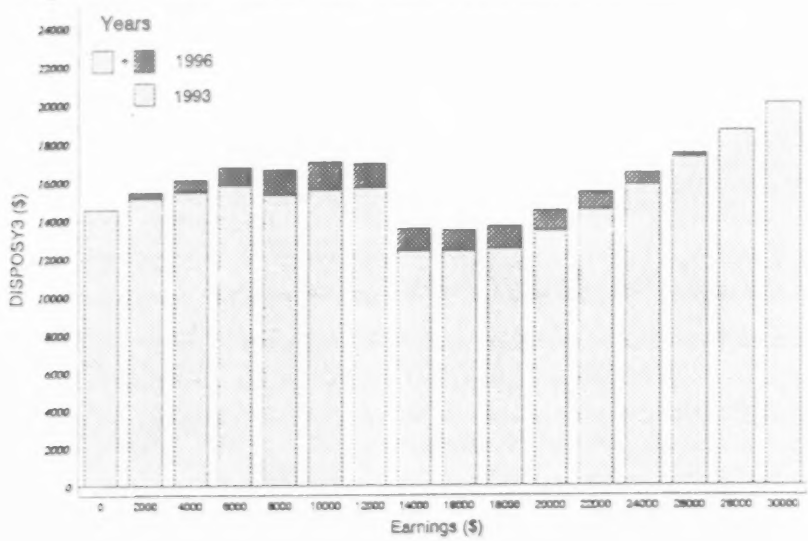
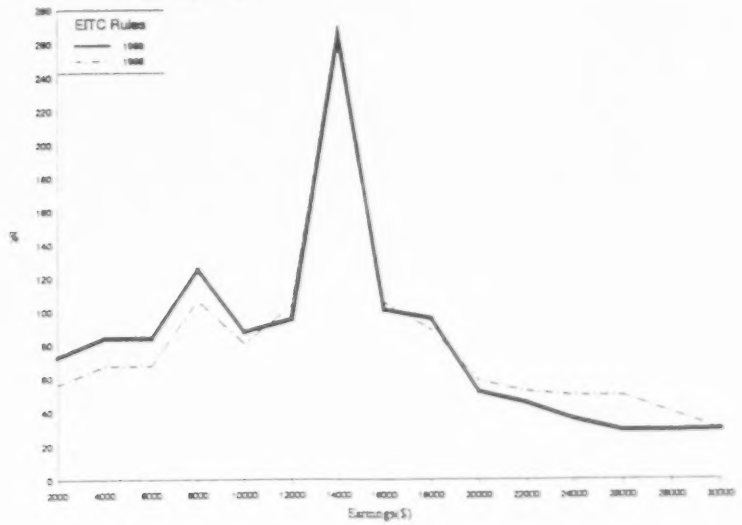


Figure 2. Implicit Tax Rates for DISPOSY3, 1993 and 1996 EITC Rules.



The implicit tax rates under DISPOSY1 are based on the narrowest definition of disposable income (ignoring work costs, child care costs, and Medicaid, and assuming the household does not receive housing assistance). Implicit tax rates are generally in the range of 35 to 50%. The low rate of 11.8% at earnings of $8,000 is due to the jump in food stamp benefits occurring when the household takes over child care expenses. The jump in the implicit tax rate at earnings of $14,000 coincides with the reduction in the EITC which begins at earnings of $12,200 in 1993. The drop in the implicit tax rate at $20,000 results from the switch to filing status as a head of household, which provides more generous tax deductions.

Implicit tax rates under DISPOSY2 (which subtracts work expenses and child care expenses from DISPOSY1) are higher than the rates under DISPOSY1 and are generally in the range of 50 to 70 percent until welfare benefits are totally phased out and work and child care expenses reach maximums at the higher levels of earnings.

DISPOSY3 is the broadest measure of disposable income, as it adds housing assistance and Medicaid to DISPOSY2. The implicit tax rates under DISPOSY3 generally are the highest because they incorporate decreases in housing assistance that occur as earnings increase.

Figure 1 shows the broadest measure of disposable income, DISPOSY3, under the 1996 EITC rules for the one adult, two children household. With the exception of zero earnings and earnings of $28,000 and $30,000 (where there are no EITC benefits), disposable incomes are higher under the 1996 EITC rules than under the 1993 EITC rules.

However, perhaps surprisingly, from earnings of $12,000 through earnings of $28,000, implicit tax rates are HIGHER under the 1996 EITC rules than under the 1993 EITC rules with one exception (see Figure 2 for DISPOSY3). The exception is for DISPOSY3 at $18,000. The 1993 implicit tax rate is higher because in 1993 housing benefits are still paid at earnings of $16,000, in 1996 housing benefits are zero at $16,000. At earnings of $28,000 and $30,000, all program benefits, including the EITC, are zero in both 1993 and 1996, so the implicit tax rates at $30,000 are the same for both years.

The higher implicit tax rates in 1996 occur for two reasons. First, the earnings level at which the EITC begins to decline is slightly lowered between 1993 and 1996, from $12,200 to $11,000. But more importantly, the phaseout percentage (PHOUTPC), which is the rate at which the EITC is reduced, is INCREASED from 13.93 percent in 1993 to 21.06 percent in 1996. Thus, although the 1996 EITC is more generous in benefits since it is phased out at a faster rate in 1996, implicit tax rates are higher at higher levels of earnings.

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Endnotes

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Financial Knowledge and Behavior of Welfare Recipients

Researchers investigated financial knowledge, financial behavior, financial attitudes and perception of barriers to effective money management of welfare recipients. Results indicate that these welfare recipients believe they are in control of their finances and exercise positive planning and saving behavior, but that they are frustrated due to a lack of income. Moderate levels of financial knowledge and existence of institutional barriers do not have adverse effects upon financial behavior of the welfare recipients.

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Welfare reform is a topic of much public concern and current federal legislative debate. When most people use the term welfare, they are typically speaking of Aid to Families with Dependent Children (AFDC), which provides cash assistance to unmarried individuals who have dependents. Georgia has passed welfare reform which stipulates that welfare recipients[3] who have not completed high school must participate in the Positive Employment and Community Help (PEACH) program (Georgia Department of Human Services, 1992). This program provides GED (Graduate Equivalent Diploma) classes, basic skills and job training. Classes in money management are part of the basic skills training in many PEACH programs.[4] However, the money management behaviors of the AFDC population have not been the subject of much research. This study investigated financial knowledge, behavior, attitudes and perception of barriers to effective money management of welfare recipients enrolled in the PEACH program.

Background

Literature on the financial management practices of low-income households is scarce. In his landmark study, Caplovitz (1963) documented that low-income persons were disadvantaged in the marketplace and had unique consumer problems. Early studies surveyed financial management of low-income families in a general way, such as that of Williams, Noll and Dick (1976) who found that low-income families were more likely to have financial problems than higher income families. Schnittgrund and Baker (1983) found that few low-income had a financial plan, but that a majority kept track of expenditures. More recently, Davis (1992) compared basic financial management practices of low-income households to adequate-income and substantial-income households. She found that 76% of the 63 respondents from low-income households had a spending plan, but only 34% had a written plan. Only 8% of the low-income households saved a fixed amount of income, while 76% of the adequate income households saved regularly. Both low-income and adequate-income households did not typically plan for more than one month, with fewer than one-third of the households reporting that they planned for more than one month (Davis, 1992).

Debt payment problems are most severe for households where the head is young, unmarried, on public assistance and have the most children (Canner and Luckett, 1990; Sullivan and Fisher, 1988). Given the recent attention to welfare reform, it is important to understand the financial behaviors and attitudes of welfare recipients, as well as to assess their financial situations.

Barriers (or disincentives) may exist which discourage individuals on welfare from following sound financial practices (Marlowe, 1989; Roberson, 1994). Evidence of institutional barriers has appeared in the press (Rose, 1990; McCarthy, 1992) but has not been the subject of research. In particular, savings often disqualify an individual from certain public assistance programs. Thus, savings would be disadvantageous for the individual in the short-run, even though saving money is a beneficial financial practice.

Futility barriers to effective financial management have not been identified, though literature mentions hopelessness as a characteristic of the low-income population (Ellwood, 1988). Some Extension clients believed financial goals were out of their reach because they did not have much money. Other clients indicated that any money accumulated toward a financial goal would have to be given to needy family or friends

before the goal was accomplished; thus, attempting to save money would be futile (Marlowe, 1989).

Some individuals may have trouble implementing sound money management practices because they comprehend situations differently than educators. For example, some Extension clients believed that they could not manage their food stamps because they did not view the stamps as money (Hall, 1989). These views were labeled comprehension barriers. Thus, three identified categories of barriers may prevent welfare recipients from engaging in sound money management practices.

Conventional wisdom suggests that low-income individuals could manage their limited economic resources more efficiently if they were taught money management. It is widely assumed that welfare recipients do not engage in sound financial behavior practices, and that financial behavior would improve with money management training. Although there are articles on effectiveness of education for a low-income audience (Schuchardt, et. al., 1991), there is little evidence to document the effectiveness of money management training with the welfare population.

Hypotheses

The objectives of the project were to assess the effectiveness of a money management education program in improving participants' knowledge of financial management and to assess participants' financial behavior in relationship to knowledge, attitudes and barriers which may prevent welfare recipients from implementing sound financial practices. Six hypotheses were: 1) Participants will increase their knowledge of money management after receiving training; 2) More money management knowledge will lead to positive changes in financial behavior; 3) More money management knowledge will lead to more positive financial attitudes; 4) Participants' financial behavior will be more positive when there are fewer institutional, comprehension or futility barriers; 5) Participants' financial behavior after the training will be more positive if they had more effective financial behavior before the training and if they perceived few barriers to effective money management; and 6) Certain participants will have higher financial knowledge scores because of certain demographic traits (age, education, number of children). It was expected that older participants would have higher knowledge scores due to experience, and that participants with more education would know more than those with lower levels of education. Those participants with fewer children would have greater financial knowledge, because they would have more time available to acquire financial knowledge and skills.

Methods

The PEACH program coordinator in two counties used a money management curriculum provided by Extension with the welfare recipients in GED classes. All program participants receiving this money management training in these two counties were surveyed before and after receiving the money management training. The data were collected during winter and spring 1994. All classes were small with 4 to 15 participants. The training lasted four weeks and included information on setting financial goals and budgeting. Questionnaires for the pretest and posttest were developed specifically to test the hypotheses. The pretest included questions to measure financial knowledge, attitudes toward financial management, financial behaviors, perception of barriers and demographic variables. The posttest did not include questions about barriers and demographics; all other questions were the same but were asked in a different order than on the pretest.

Both pre- and posttest questionnaires were administered by a graduate student who had established rapport with participants. Each respondent wrote her answer on her questionnaire after hearing it read aloud to the group. Thirty-five respondents answered the pretest questions. The posttest was administered after completion of the training. Unfortunately, all participants answering the pretest were not in class on the day of the posttest. Thus, only 19 respondents answered the posttest.

Measures of variables

Institutional barriers were measured with two items. One asked how much money someone like them could save and still be eligible to receive AFDC. A second item asked how much individuals like them could earn and still be eligible for AFDC. Having a lower savings and earnings thresholds before welfare eligibility was threatened reflected a perception that barriers to welfare were greater than they actually are. The index used in the analysis was the sum of the two items.

Respondents' comprehension barriers were measured via three items that captured their beliefs about the efficacy of certain financial behaviors for people like them. The three items were: 1) "Credit is necessary if someone like me needs to buy something that costs more than $100;" 2) "Financial goals are out of reach for someone like me;" and 3) "It would do me no good to try and budget because I don't have enough money." The

Table 1

Results of hypotheses tests

Null hypotheses (type of analysis)	Parameter	Statistic
H 1: No change in subjects' financial knowledge		
H 2: Subjects' knowledge at pretest has no effect on their behavior at posttest		
Planning & saving behavior	1.42	F= 2.21*
Bill-paying behavior	0.27	F= 0.78
Borrowing behavior	0.04	F= 0.15
H 3: Subjects' knowledge at pretest has no effect on their feelings at posttest		
Feelings of control	1.27	F= 1.29
Feelings about financial mgmt.	0.27	F= 0.83
Satisfaction with situation	0.35	F= 1.34
H 4: Subjects' perceptions of barriers has no effect on their financial behavior at pretest		
Planning & saving at pretest		
Institutional barriers	-2.04	t=-1.40
Comprehension barriers	-2.21	t=-2.10*
Futility barriers	0.23	t= 0.19
H 5: Controlling for subjects' pretest financial behavior, subjects' perceptions of barriers has no effect on their financial behavior at posttest		
Planning & saving at posttest		
Planning & saving at pretest		F= 0.04
Institutional barriers		F= 2.29
Comprehension barriers		F= 7.59*
Futility barriers		F= 0.02
H 6: No relationship between subjects' financial knowledge at posttest and their age, education and number of children		
Age	.35	p=.14
Education	-.43	p=.08
Number of children	.37	p=.14

* Significant at $p < 0.05$

index was formed by summing respondents' answers to these questions.

The third measure of barriers was termed futility barriers and assessed respondents' feelings of hopelessness. The three items were: 1) "someone else always needs money so if I set any aside, I would just have to give it away;" 2) "It would do no good to set financial goals for myself because I could never accomplish them;" and 3) "it does no good to save for the future, because others would need the money--so I might as well spend the money." Responses on these three items were summed to form the index of futility barriers.

Financial knowledge was measured with nine multiple choice items that involved definitions of such terms as financial goals, fixed and variable expenses, savings, and budgets, as well as basic principles of effective financial management. A financial knowledge score was obtained by summing each respondent's scores.

Fourteen items measured respondents' financial attitudes. Pearson correlation analysis indicated that these items should be grouped into two indices. The first index measured respondents' feelings of control of various aspects of their financial situation. It included seven items, such as their feelings of control over the amount of money they have, saving money, getting out of debt, and dealing with debt difficulty. These items were

Likert-type statements with a four-point response set including none (coded 1), not much, some, and a good deal (coded 4). Subjects' scores on these items were summed to form the index.

Another index captured respondents' feelings regarding managing money. This measure included five items such as how often do you feel "afraid others will criticize you for the way you spend your money;" "that others take advantage of you and your money" and "negative about managing money?" These Likert-type items had a five-point response set ranging from never (coded 5), seldom, once in a while, often, and usually (coded 1). The index was a sum score of responses to all five items.

Satisfaction of the respondents with their financial situation was measured with a single Likert-type item, reading "How satisfied are you with your financial situation?" Four responses ranging from very satisfied (coded 4), somewhat satisfied, somewhat dissatisfied, to very dissatisfied (coded 1) were available to the respondents. Additionally, if the respondents were dissatisfied, they were asked to describe what was the source of their dissatisfaction.

A total of 18 items about various aspects of their financial behavior were asked; Pearson correlations were used to see how these items clustered together in order to form internally consistent and reliable measures of aspects of subjects' behavior. The first index was labelled planning and saving behavior and included six items. Two items had dichotomous response sets: 1) "Do you sometimes set aside money for emergencies or upcoming expenses?" 2) Would you set aside $20 per month until you have $200 saved if there was something you wanted to buy?", and four items were Likert-type items asking "How often do you: 3) "have a plan for spending my money?", 4) "manage my money so I have enough money to last until I get my next income check?", 5) contact the persons I owe, if I can't pay my bills on time?" and 6) "spend more than I make?" The entire index was the sum of the six responses with higher scores indicating better financial management behavior.

The second index measured respondents' bill-paying behavior and included three items: 1) "Do you owe for any bills that are past due?" 2) "Right now, are any of your bills past due?' and 3) "How frequently do you set aside money for things that are important to me?" These three items were highly correlated among themselves and marginally correlated all with the items in the first index, indicating that they tapped a separate construct from the first. The index was the sum of respondents' scores on the three items.

The final index capturing an aspect of subjects' financial behavior was their borrowing behavior. Two items measured this construct. The first asked, "Have you had to borrow any money within the past week?" The second question asked, "How much money have you borrowed within the past two weeks?" Responses available were: 1) nothing; 2) less than $50; 3) $50 - $100; 4) $100 - $500; 5) $500 - $1000 and 6) more than $1000.

Data Analysis

The first hypothesis was tested using a repeated-measures analysis of variance of subjects' pretest and posttest financial knowledge. The second hypothesis was tested with three simple OLS regressions with each posttest measure of financial behavior (planning and saving, bill-paying, and borrowing) as a dependent variable and subjects' pretest financial knowledge as an independent variable. To test the third hypothesis, three regression analyses were performed with the three posttest measures of subjects' feelings about their finances as the dependent variables and subjects' pretest financial knowledge as the independent variable. Multiple regression analysis was used to test the fourth hypothesis; the dependent variables were the three measures of pretest financial behavior, and the independent variables included the respondents' perceptions of barriers they reported on the pretest.

The fifth hypothesis was tested using a repeated-measures analysis of covariance. The covariates were the three measures of pretest financial behavior. The dependent variables were the posttest financial behaviors--planning and saving behavior, bill-paying behavior, and borrowing behavior. The independent variables included the respondents' perceptions of barriers to exiting welfare. The sixth hypothesis was tested via Pearson correlation. Subjects' demographic characteristics were correlated with their financial knowledge at posttest.

Findings

Most of the respondents were between ages 25 and 34 and had 10 or 11 years of school. Welfare recipients who were still in high school would not be in a GED class; therefore, most teenage recipients were not in the PEACH program. Forty-one percent had 1 or 2 children and 30 percent had 3 or 4 children. All respondents received some kind of welfare assistance and a majority received all three categories of assistance.

Respondents reported high perception of institutional barriers (mean of 3.53 on a range of 0-4). On average they perceived that earnings and savings disincentives of the welfare programs were more stringent than they really were. Respondents' financial

knowledge was almost at the midpoint of the scale (4.34 pretest and 5.0 posttest on a range from 0-9). The welfare recipients indicated that they believed they had a high degree of control with their finances. The midpoint is 17.5 and the mean degree of control was 19.57. This is higher than expected, given the popular stereotype that welfare recipients have feelings of hopelessness and little control.

The results hypotheses tests are given in Table 1. Financial knowledge on the pretest was a significant determinant of reported financial planning and savings behavior on the posttest. Respondents with higher pretest financial knowledge scores reported higher financial planning and saving behavior on the posttest than subjects with less financial knowledge. Financial behavior on the pretest was negatively associated with subjects' perception of comprehension barriers. Thus, subjects' reporting fewer effective financial behaviors were those who perceived higher comprehension barriers. Finally, respondents who reported higher comprehensionbarriers had lower posttest financial planning and saving behavior scores.

On average clients did not significantly increase their knowledge of money management after receiving the money management education. With the exception of a positive change in planning and saving behavior, increased money management knowledge did not lead to positive changes in attitudes and financial behavior. The hypothesis that clients' attitudes would be better after the training if they had more financial knowledge on the pretest, was not supported. The hypothesis that clients' financial behavior would be more positive when there are fewer barriers was not supported, with the exception of comprehension barriers. Financial behavior after training was more positive for those clients with low comprehension barriers; otherwise, the hypothesis was not supported. None of the demographic variables were significantly related to subjects' financial knowledge.

There were several open ended questions asked in order to gain additional insights into financial management practices and barriers of this population. When asked if they were dissatisfied with their financial situation, 22 out of 35 said yes. Most respondents reported "not enough money" as the reason for the dissatisfaction. Respondents were asked to list which expenses were their top three priorities and 30 listed utilities (excluding telephone) and 20 listed rent. When they did not have enough money, 11 of the 35 respondents said that they borrowed from family and friends, and 22 said that they just do not buy some of the necessities. The primary management tool for dealing with credit bills when there is not enough money is to "pay some bills, but not others."

Summary and Implications

These welfare recipients did not have high levels of financial knowledge. Though 63.2 percent of those taking the posttest improved their financial knowledge score, the mean scores of the subjects on the posttest were not significantly different than scores on the pretest. Additional analysis was performed to determine if the age of the client was related to financial knowledge, and it was not. Caution should be used in interpreting the statistical results, because only 19 of the 35 participants answered the posttest. Furthermore, while the test matched the curriculum, it is possible that all the knowledge components were not actually delivered to the participants in the PEACH program. Further development of the educational program may be necessary, or this sample may not be representative of a typical welfare recipient. In addition, the period of time over which these subjects were observed was limited. More change might occur over a longer time period.

While most respondents perceived that institutional barriers did exist, institutional barriers do not appear to have an effect upon participants' financial behavior. Further research with a larger sample could uncover different results; however, there is little evidence from this preliminary study to warrant further research on the effects of institutional barriers upon financial behavior. Though few respondents reported high levels of comprehension barriers, for those who did perceive a comprehension barrier, it was significant in predicting financial behavior on the pretest and posttest. Most respondents reported few futility barriers; thus, this barrier did not appear to exist.

Respondents reported that they have a high degree of control over their finances, which indicates that they are not suffering from feelings of loss of control. Respondents reported high levels of institutional barriers, yet these barriers did not affect their financial behavior. They also indicated much higher than expected planning and saving behavior. At the same time, respondents indicated that they had negative feelings about financial management. These welfare recipients feel in control of their management, engage in planning and saving, and are not blaming someone else. However, they are frustrated because they simply do not have enough money.

Job training in order to increase income may be the most important approach to improving financial management practices of welfare recipients. It is important that welfare recipients receive training for jobs that pay more than they receive from welfare and for jobs that are available. Research is needed to assess financial behavior after a welfare recipient becomes gainfully

employed. Furthermore, once an individual has enough income to meet current financial obligations, additional study should be undertaken to investigate the variables other than income (such as time horizon) which are associated with sound money management practices of former welfare recipients.

Results of the open-ended questions suggest that these recipients are not just throwing their money away. They listed basic necessities (rent and utilities) as their top priorities among expenses, which indicates that they have their priorities in order. However, this audience could benefit from knowing how to approach creditors when they do not have the money to meet their payments. They reported that when they didn't have enough money to met all their bills, they would pay only some creditors.

Rather than making assumptions about what the money management education needs of the audience, it would be wise to use a screening test or needs assessment tool and then tailor the educational program to the audience. Currently there is no widely accepted tool designed for limited income audiences to determine level of financial knowledge. Such a screening tool could result in designing programs which more effectively meet the needs of the audience. Money for programs could then be spent on what is needed most. Educators and practitioners should avoid making assumptions based on stereotypes. More thought needs to be given to determining which kinds of programs best meet the needs of the clientele. The result would be more efficient use of public resources.

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Endnotes

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3. Most PEACH participants receive AFDC, Medicaid and Food Stamps; however, in some cases where there was other income, Medicaid and food stamps may be the only welfare received.
4. PEACH is administered at the county level and there is variation from one county to another.

Consumer Perception of Fat and Demand for Beef in the United States

The relationship between beef demand and its fat content is analyzed using the 1987-88 Nationwide Food Consumption Survey. The results show that beef demand is inelastic to meat expenditure and its own price. The magnitude of the own price elasticity is smaller than the fat elasticity of beef price. Socio-demographic variables are determinants of consumer perception of fat in beef. These findings provide economic support of producing and marketing leaner beef.

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From 1971 to 1989 per capita red meat consumption declined from 72 kg to 61 kg (CAST, 1991). This is partially attributed to consumer health concerns (Gao & Shonkwiler, 1993). According to the CAST (1991), consumers would purchase more beef if the fat was well trimmed for retail display. In addition, consumers will expect meat products in the 1990s to be leaner, more convenient to prepare, and perceived to be healthful. Based on these consumer views, an economic analysis on the relationship between consumer perception of fat and demand for beef is particularly timely.

In the past several decades, the demand for meat has been extensively studied by economists (Tomek, 1965; Chang, 1977; Moschini & Meilke, 1989; etc.). Since the relationship between undesirable nutrients such as fat and cholesterol in the American diet and public health has been well recognized, many economists such as Brown and Schrader (1990) and Capps and Schmitz (1991) have started incorporating consumer health concern and nutrition into food demand analysis. They all found consumer health and nutrition concerns have a significant effect on food demand. However, they only incorporated a cholesterol information index in their demand models. How consumer perceived and concerned the undesirable nutrients such as fat and cholesterol in food were overlooked. Recently, Unnevehr and Bard (1993) reported that consumers are willing to pay more for removing fat from beef. Unfortunately, they did not investigate the impact of consumer perception of fat on beef demand.

This study focuses on the trimming of excess fat (external and internal fats are not distinct in this study) from beef by examining the relationship between consumer perception of fat and demand for beef using the 1987-88 Nationwide Food Consumption Survey. Beef is postulated to be available in a variety of qualities in marketplaces. Consumers make decisions on how much to purchase as well as at what qualities. The effect of quality characteristics in durable goods such as automobiles and computers as well as nondurable goods such as food on consumer behavior has long been recognized (e.g., Waugh, 1928; Houthakker, 1952; and Griliches, 1971). However, research on incorporating quality variation into applied demand analysis is lacking. This research addresses this shortcoming. Specifically, the purpose of this study is two-fold. One is to analyze consumer evaluation of fat in beef, and the second is to address the impact of fat content on beef demand.

Model Specification

In marketplaces, different qualities (grades) of foods are available to consumers and are priced accordingly. Beef, for example, may be graded from fat beef (low quality) to lean beef (high quality) according to its fat content. Based on their budget constraints, consumers have different preferences for different qualities of beef. Because marginal utility of income is a decreasing function of income (Tweeten & Mlay, 1986),low income consumers may overestimate the value of low quality beef while high income consumers overestimate the value of high quality beef. There is an optimal fat content level at which both low and high income consumers have the same quality valuation. Any other fat content level represents a loss to consumers since there is some discrepancy between the consumer valuations and the true quality valuation. The optimal fat content for producers is the point at which the marginal gain equals marginal loss from the fat reduction.

The changes of producer and consumer well-being from the fat reduction are determined by the shift and slope of the supply and demand curves. Therefore, the decision of fat trimming in the beef industry depends on consumers' perception of fat and the magnitude of willingness to pay for fat reduction beside the production cost of trimming fat. The consumer perception of fat and willingness to pay for fat reduction can be measured by own price elasticity and fat elasticity of price. These parameters can be estimated from the following economic model.

Following the approach used by Capps and Schmitz (1991), the consumer utility function can be expressed as:

$$U = U(q(Z(r))) , \qquad (1)$$

where r is a vector of commodity attributes which a consumer identifies as qualities, q is a commodity vector which the consumer perceives with quality r, and Z represents how consumers perceive the quality attributes. The Marshallian demand function for good i derived from the above utility specification can be expressed as:

$$q_i = q(y, p(r)) , \qquad (2)$$

where y is consumer budget and p is a price vector which associates the consumer's perception of the commodity quality. The equation implies that both demand and price are choice variables to consumers. Thus, consumer perception of fat and demand for beef can be specified.

Since consumers are willing to pay for removing fat from beef (Unnevehr & Bard, 1993), beef should be priced according to its fat content, other things equal. Therefore, demand for beef is determined by total meat expenditure, beef price which is affected by its attributes such as fat content, prices of other meat and related products, and socio-demographic variables. The demographic variables capture the effects of other quality factors or consumer beliefs on beef demand because prices and expenditure seem inadequate in explaining observed patterns of meat consumption (Chalfant & Alston, 1988). These variables such as family size and race have traditionally played a major role in the analysis of household demand behavior (Pollak & Wale, 1992, p.11). The empirical functional form is specified as a constant elasticity demand model:

$$\ln(Q_{bf}) = \alpha_0 + \alpha_1 \ln(EXP) + \alpha_2 \ln(P_{bf}(r_{bf})) + \sum_{i=1}^{n} \alpha_{i,2} \ln(P_i) + \sum_{j=1}^{m} \alpha_{n+j,2} D_j + u , \qquad (3)$$

where Q_{bf} and P_{bf} are quantity and price of beef, respectively, EXP is meat expenditure, P_i is price of other meat i (i.e., pork, lunch meat, poultry, and fish),[5] D is a set of demographic variables, α's are parameters to be estimated, and u is the error term. This functional form is chosen because of its linearity in parameters, robust to model mispecification, and appearance of elasticities as parameters (LaFrance, 1986).

The vector D in the demand function includes household size, educational level and race of household head, and region of resident. The household size is used to capture the effect of economy of size. The educational level and race represent consumer characteristics which affect consumer choice on specific beef items. For example, consumers at different educational levels may purchase beef at different qualities. The region of resident capture the regional differences in consumption traditions.

Based on the procedure used by Houthakker(1952), Deaton(1988), and the hedonic methodology, the beef price is assumed to be determined by the fat content of beef, and consumer economic and socio-demographic characteristics. The empirical specification is expressed as:

$$\ln(P_{bf}(r_{bf})) = \beta_0 + \beta_1 \ln(FAT) + \beta_2 \ln(FC) + \sum_{j=1}^{d} \beta_{2+j} D_j + e , \qquad (4)$$

where FAT is fat content of beef, FC is total food cost, D is a vector of consumer demographic variables, β's are parameters to be estimated, and e is the error term.

The β_1 is interpreted as the fat elasticity of beef price and is expected to be negative representing consumers' willingness to pay for fat reduction. In addition, this parameter is important in determining optimal fat trimming schemes. Compared with the α_2 parameter in the beef demand function, own price elasticity of beef, a larger β_1 in absolute value implies that the beef industry may enhance revenue by marketing leaner beef. Demographic variables are used to capture consumer perception on beef quality.

Total food cost (FC) (including at- and away-from-home food expenditure) rather than total meat expenditure, EXP in equation (1), is used to capture consumer perception in quality. The FC is used as a proxy of consumer income based on the belief that beef quality is related to FC more directly than to income. A positive β_2 is plausible so that high income consumers purchase more expensive (high quality) beef items. A

quality elasticity of beef can be defined as (Houthakker, 1952):

$$E_q = \frac{P_{bf}}{FC}\frac{\partial P_{bf}}{\partial FC} = \beta_2 \quad (5)$$

Equations (1) and (2) comprise a recursive simultaneous equation system and can be estimated by two-stage least squares (2SLS) procedure.

Data

Data used in this study are from the 1987-88 Nationwide Food Consumption Survey (NFCS) which was conducted between April 1987 and August 1988 sponsored by the United States Department of Agriculture. The survey contains food consumption and socio-economic and demographic information on 4,273 housekeeping households[6] in the 48 conterminous states in the United States. Among those, 3,603 households who consumed beef during the survey week are used for the analysis. Five meats (i.e., beef, pork, lunch meat, poultry, and fish) are defined as the consumption bundle due to expected cross substitutional and complimentary relationships. Lunch meat includes hot dogs, frankfurters, and other lunch meats except boiled ham and roast beef.

The selected socio-demographic variables are standard household size, educational level and race of household head, food stamp participation, region and urbanization of resident, and household head status. Definitions of these and selected continuous variables (meat expenditure, total food cost, fat content of beef, beef consumption, and prices of the five meats) and their selected sample statistics are presented in table 1.

Treatment of Missing Prices

During the survey week, not all the 3,603 households consumed all five meats. Some prices are unobserved for some households who did not consume a meat during the survey week. In addressing this issue, there are several approaches proposed in the literature. One approach is to approximate the missing prices by an inverse semi-log specification. The inverse semi-log is used to avoid negative predicted prices. The missing prices are predicted by regressing the logged available prices on other available independent variables. One caveat of this approach is the introduction of random factors into the demand model. Additionally, the model for predicting missing prices is likely to be incorrect (Pudney, 1989)

Two simpler and most commonly used ways are discarding the observations which have missing prices or replacing the missing prices with "appropriate" sample means. It is often arbitrary to select which method to be used. In this study, there are only 813 households which consumed all five meats during the survey period. Severe sample bias may occur if the observations which have missing prices are discarded. Therefore, the missing prices are replaced by regional means in this study. The regional means are calculated based on the region and urbanization area of residents and educational level of household head.

The region and urbanization area of residents are used for computing the sample means because they may reflect the price differences due to marketing situations and regional consumption traditions. Theeducational level of household head determine which store consumers are more likely to purchase from. Different stores may charge different prices for a meat because of quality differences, shopping environment, and other services such as packaging, cleaning, and cutting.

Results and Discussion

The beef demand and price equations were estimated by two-stage least squares (2SLS) method. The results are statistically plausible (Table 2). For the beef demand equation, thirteen out of 15 (86.7%) parameters are statistically significant at the 0.05 level. The R^2 is 0.40 which is acceptable for an analysis of cross-sectional data. Eleven out of 15 (73.3%) parameters in beef price equation are statistically significant at the 0.01 level. The price equation has a R^2 of 0.19. Cox and Wohlgenant (1986) used a similar specification for vegetable prices and reported the R^2's of 0.05, 0.03, and 0.04 for fresh, canned, and frozen vegetables, respectively. Regarding to their very low R^2s,they concluded that quality impact on price was small for vegetables and indicated that physical characteristics which reflect commodity qualities should be included. Results of this study suggests that fat in beef is an appropriate physical attribute which consumers identify as quality.

The estimated demand elasticities of beef with respect to expenditure and its own price are 0.79 and -0.33, respectively. This is consistent with the results of Capps and Schmitz (1991) who emphasized the importance of health and nutrition information on the demand for food. As early as 1960's, Tomek (1965) has pointed out that beef has become less price elastic and partially attributed this to quality changes in the product. The inelastic demand elasticity suggest that consumers

Table 1
Variable Definition and Selected Sample Statistics (N^a = 3,603)

Variables	Definition	Means
EXP($/wk)	Per capita expenditure on five meat commodities	8.27 (5.60)[b]
EC($/wk)	Per capita total food cost (at- and away-from home)	91.72 (561.29)
FAT(g)	Fat contents per pound of beef	88.18 (16.45)
Q_{bf}(lb/wk)	Per capita beef consumption	1.76 (1.40)
P_{bf}($/lb) (N=3,603)	Beef price defined as dividing expenditure by quantity	1.91 (0.85)
P_{pk}($/lb) (N=2,983)	Pork price defined as dividing expenditure by quantity	2.08 (0.87)
P_{lm}($/lb) (N=2,762)	Lunch meat price defined as dividing expenditure by quantity	2.11 (0.90)
P_{pt}($/lb) (N=3,118)	Poultry price defined as dividing expenditure by quantity	1.40 (1.05)
P_{fh}($/lb) (N=2,242)	Fish price defined as dividing expenditure by quantity	2.92 (1.74)
SFS	Standard family size (21 meal equivalent person)	2.56 (1.34)
ED1	1 if household head completed less than 9 years of school, 0 otherwise	0.133
ED3	1 if household head completed 1-4 years of college, 0 otherwise	0.307
ED4	1 if household head completed more than 4 years of college, 0 otherwise	0.068
RA1	1 if household head is white, 0 otherwise	0.851
RS	1 if household currently receive food stamps, 0 otherwise	0.075
FEM	1 if household headed by female only, 0 otherwise	0.228
NE	1 if northeast region resident, 0 otherwise	0.198
MW	1 if midwest region resident, 0 otherwise	0.273
SOUTH	1 if south region resident, 0 otherwise	0.347
URB1	1 if household lives in central city, 0 otherwise	0.221
URB3	1 if household lives in non-metro area, 0 otherwise.	0.301

[a] N denotes number of observations.
[b] Number in parenthesis is standard deviation.

Table 2
Estimation Results of Beef Demand and Price Equations by 2SLS

Variable	Demand Equation		Price Equation	
	Parameter estimate	Standard error	Parameter estimate	Standard error
Constant	-0.774**	0.062	2.607**	0.129
ln(EXP)	0.792**	0.022	---	---
$\ln(P_{bf})$	-0.328**	0.099	---	---
$\ln(P_{pk})$	-0.109**	0.036	---	---
$\ln(P_{lm})$	-0.105**	0.033	---	---
$\ln(P_{pt})$	-0.065**	0.020	---	---
$\ln(P_{fh})$	-0.075**	0.028	---	---
ln(SFS)	-0.060**	0.019	-0.044**	0.012
ED1	-0.003	0.032	-0.029	0.018
ED3	-0.112**	0.024	0.052**	0.013
ED4	-0.139**	0.043	0.101**	0.024
RA1	0.063*	0.030	0.053**	0.018
NE	-0.132**	0.033	0.068**	0.019
MW	0.066*	0.032	-0.093**	0.018
SOUTH	0.010	0.030	-0.024	0.017
ln(FC)	---	---	0.059**	0.008
ln(FAT)	---	---	-0.501**	0.027
FEM	---	---	-0.024	0.016
RS	---	---	-0.073**	0.023
URB1	---	---	0.015	0.015
URB3	---	---	-0.061**	0.014
R-Square	0.40		0.19	

** and * denote statistical significance at the 0.01 and 0.05 levels, respectively.

may be more interested in beef quality rather than quantity (Menkhaus *et al.*, 1993). The inelastic own price elasticity provides economic support of trimming fat from beef.

The estimated cross price elasticities show that all the meats are complements although they are very inelas ic respect to cross prices. A possible explanation is that quality variations of meat outweighs price effects for consumers in the 1990's (Wesenberg, 1990). If an individual consumes low quality beef such as not-well-trimmed and bone-in beef, he/she is also more likely to consume low quality pork. If the low quality commodities are represented by large quantities for reasons such as not-well-trimmed and bone-in meat, the complements relationship may present. Moreover, consumers may switch away from meat to other foods such as vegetables and fruits due to their growing health concerns. This offers another possibility of presenting complementary relationship between meats. This finding appears in conflict with those of previous studies. Capps and Schmitz (1991) and Spreen and Gao (1993) found meat and related products as very inelastic to cross prices with a majority of the commodities as substitutes. This may be due to that Capps and Schmitz used time series data (1966-88) while Spreen and Gao used more disaggregated data such as steak and roast.

Per capita demand for beef declines as household size increases. This indicates that large households may consume more variety of meats owing to possible taste differences. The estimated coefficients of educational levels indicate that consumers with more years of education consume less beef than consumers with few years of education. White households tend to demand more beef than do the other races. Compared with consumers in the west region, the northeast consumers demand less while midwest consumers demand more beef. Demand for beef is not significantly different between consumers in the west and south regions.

The coefficient for food cost in the price equation is statistically significant and positive as expected. The positive estimate indicates that high income consumers demand high quality products. This is consistent with the findings of previous studies. Black (1952) concluded that high income consumers paid higher prices for food than low income consumers. Cox and Wohlgenant (1986) found high income consumers pay higher price for fresh vegetables than low income consumers using the 1977-78 NFCS. Consistent with Unnevehr and Bard (1993), the elasticity of price with respect to fat content is statistically significant and negative (-0.501). This implies that fat is negatively valued. Consumers are willing to pay more for reducing fat content in beef. This elasticity is larger than the own price elasticity of beef (-0.328) in absolute value although both elasticities are less than unity. This relationship implies that trimming extra fat may improve the net revenue of the beef industry.

Economy of size is present as shown by the significant and negative coefficient of standard household size. Similar results were found by Cox and Wohlgenant (1986). They reported that large households pay low prices for fresh, canned, and frozen vegetables. The estimated parameters for educational levels indicate that consumers with more years of schooling pay a higher price for beef than consumers with few years of schooling. Cox and Wohlgenant reported that consumers who have completed college demand higher quality of canned vegetables than do the less educated consumers. A comparison of the parameters with their associated parameters in the demand equation indicates highly educated consumers substitute quantity for quality.

White households pay a higher price for a unit of beef than other races. Similarly, Cox and Wohlgenant found nonblack households pay higher price for fresh and canned vegetables. In addition, white households also demand more beef than do the other races as shown by the significant parameter in the demand equation. This finding has important implication to the beef industry. Because consumers demand more high quality beef, producing and/or marketing leaner beef may enhance the profit of the beef industry. Compared with the west region households, households pay more in the northeast and less in the midwest regions for a unit of beef. This explains why consumers demand less beef in the northeast and more beef in the midwest regions as seen in the demand equation.

The parameter for the food stamp variable is statistically significant and negative. This implies that the food stamp recipients consume lower quality beef than do the other households. The results also indicate that beef quality is lower for households living in non-metro area than those living in other areas.

Conclusion

The relationship between consumer perception of fat and demand for beef is specified in an economic model. The model is applied to a cross-sectional data from the 1987-88 Nationwide Food Consumption Survey. Consisting with previous studies such as Capps and Schmitz (1991), the results indicate that beef demand is rather inelastic to meat expenditure and its own price. These inelastic elasticities and the estimated coefficients of the demographic variables suggest that consumers substitute quantity for quality. This finding is important for beef production and marketing. For example, producing and marketing leaner (high quality) beef may be a key avenue for the beef industry to enhance profit. The finding of the complementary relationship among meats is quite different from the general assumptions and the results of previous studies. This may raise a challenge for conducting cross-sectional demand analyses and understanding consumer food consumption behavior.

The fat elasticity of beef price suggests that consumers are willing to pay a higher price for reducing fat content in beef. Furthermore, the fat elasticity is larger than the own price elasticity of beef demand in absolute magnitude. Thus, the beef industry could potentially achieve a higher profit if more fat is trimmed. Per capita total food cost, family size, region and urbanization of resident, food stamp participant, educational level and race of household head are major determinants of consumer perception of fat in beef. These results are useful for initiating appropriate marketing strategies such as marketing segmentation. For example, more fat should be trimmed in the northeast region and the regions and/or areas with more highly educated consumers residing.

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Endnotes

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5. Other prices are not assumed to be a function of quality due to data limitations and requirement of assumptions in economic modelling.
6. The housekeeping household is defined as at least one member having ten or more meals from household food supply during survey week.

Wife's Employment and Food Expenditures Away From Home

A double-hurdle model is used to study FAFH consumption in the United States. The empirical specification accounts for heteroscedasticity and nonnormal distribution of the errors. Findings suggest that wife's employment has a positive effect on the level of lunch consumption away from home, but not the other types of meals. Income effects are significant. The roles of demographics, region, and seasonality are also important.

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Introduction

Expenditures for food consumed away from home represent a relatively large share of the food budgets of consumers in the United States. Since the late 1970s, expenditures for food away from home (FAFH) have represented about 4.5% of disposable personal income, and maintained that share until 1990, in the face of a continuing fall in the share of the overall budget going to food (Putnam and Allshouse 1993). Since 1990 the FAFH share of disposable personal income has fallen to 4.2%, at a level of $184 billion in 1992. This amount represented 36.5% of total food expenditures in 1992.

The reasons behind the growing importance of food prepared away from home have been summarized in several recent studies (Chern and Lee 1994; Kolodinsky 1987; Yang 1988). Among factors often identified are rising incomes, increased female labor-force participation, changes in household demographics, changes in "lifestyle", and the expanded availability and variety in fast food establishments (Manchester 1992). A better understanding of the factors associated with FAFH has become increasingly important in order to explain changes in the food market, anticipate implications of changes in eating patterns on dietary quality, design effective nutrition intervention programs, and to understand factors which motivate consumer behavior related to food choices.

The demands for increased information about FAFH expenditures are faced with problems in data availability. No existing national data set appears to meet all needs for analysis of demand. The Bureau of Labor Statistics Consumer Expenditures Survey data do provide information on meal expenditures. The aspect of the market addressed in this paper is that FAFH purchases are not the same: they differ by type of meal, among other attributes (such as place of eating).

This paper uses a relatively straightforward economic behavior model, based on a household production framework which accounts for constraints on the availability of time, as well as income, as determinants of consumer choice. Although the same set of variables is used in the estimation of expenditures on different meals, there are reasons to expect different effects on the probability of purchases and the level of expenditures. In part, the differences stem from varying constraints on time use by time of day and location of activities (e.g., work and school location). For example, lunch purchases are more likely for households with more earners employed, increased labor force participation of wives and higher numbers of school age children. In addition, differences in opportunities for joint household production may differ by type of meal: the entertainment value attached to dinner time may increase the willingness to pay for the dinner-time commodity, in contrast to breakfast.

Empirical Model

The demand for FAFH and its components can be derived from the household production theory. In household production theory, consumer goods and time enter the household utility function, and are maximized subject to the household production function, full-income constraint, and time constraint. Solving the constrained utility maximization problem, the demand for FAFH is a function of prices, wage rates, non-wage income, and other socio-demographic variables. Since cross-section prices are expected to be constant the expenditure equation for FAFH, say commodity i, is specified as

$$E_i = E_i(h, v, \boldsymbol{d}) \qquad (1)$$

where E_i is expenditures on meal i, h is wife's labor

hours, v is non-wage earnings, and $\mathbf{d}$ is a vector of demographic and dummy variables. Since women are traditionally the primary food preparers (and represent the largest share of self-identified main meal preparers in the USDA food surveys), husband's wage earnings are included in wife's non-wage income (henceforth, income).

Statistical Model

Zero observations are common features of observed expenditure data in cross-section surveys. For cross-sectional demand analysis with zero observations in the sample, the double-hurdle model has become increasingly popular (Haines, Guilkey, and Popkin 1988; Wang and Jensen 1994). The double-hurdle model, specified by Cragg (1971), is characterized by a probit mechanism which determines participation in the market, and a Tobit mechanism to accommodate corner solutions in consumer choice. For positive consumption to occur, two hurdles have to be overcome: to participate in the market, and to actually consume. Thus, the double-hurdle model can be expressed by a participation equation $\mathbf{z}_i\boldsymbol{\alpha} + v_i$ and a consumption equation $\mathbf{x}_i\boldsymbol{\beta} + u_i$ such that

$$y_i = \mathbf{x}_i\boldsymbol{\beta} + u_i \text{ if } \mathbf{z}_i\boldsymbol{\alpha} + v_i > 0$$
$$\text{and } \mathbf{x}_i\boldsymbol{\beta} + u_i > 0. \quad (2)$$
$$= 0 \text{ otherwise}$$

where y_i is the observed dependent variable, $\mathbf{z}_i$ and $\mathbf{x}_i$ are vectors of explanatory variables accounting for participation and consumption respectively, $\boldsymbol{\beta}$ and $\boldsymbol{\alpha}$ are parameter vectors and the error terms u_i and v_i are independent and are distributed as $u_i \sim N(0, \sigma_i)$ and $v_i \sim N(0,1)$. By allowing separate stochastic processes to determine participation and consumption, the double-hurdle model relaxes one of the most restrictive features of the Tobit model.[3]

The specification (2) relies crucially on the homoscedasticity and normality assumptions of the error terms u_i and v_i; these assumptions are often made in empirical studies. However, maximum-likelihood (ML) estimation produces inconsistent parameter estimates when either assumption is violated (Arabmazar and Schmidt 1981, 1982). To allow for nonnormal errors, the dependent variable can be transformed. We consider the inverse hyperbolic sine (IHS) transformation (Burbidge, Magee, and Robb 1988)

$$y_i(\theta) = \log[\theta y_i + (\theta^2 y_i^2 + 1)^{1/2}]/\theta$$
$$= \sinh^{-1}(\theta y_i)/\theta, \quad (3)$$

where θ is an unknown parameter. The transformation is linear when θ approaches zero and behaves logarithmically for large values of θ and y_i; it is also known to be well suited for handling extreme values. Applying the IHS transformation to the dependent variable y_i in (2), the IHS double-hurdle model can be expressed as

$$y_i(\theta) = \mathbf{x}_i\boldsymbol{\beta} + u_i \text{ if } \mathbf{z}_i\boldsymbol{\alpha} + v_i > 0$$
$$\text{and } \mathbf{x}_i + u_i > 0 \quad (4)$$
$$= 0 \text{ otherwise.}$$

To overcome the restrictions of homoscedasticity, the standard deviation σ_i is allowed to vary across observations and is specified as a function of exogenous variables $\mathbf{w}_i$

$$\sigma_i = \exp(\mathbf{w}_i\boldsymbol{\gamma}), \quad (5)$$

where $\boldsymbol{\gamma}$ is a parameter vector. The IHS double-hurdle model (4) can be estimated by the method of maximum-likelihood.

The nonlinear (IHS) transformation of the dependent variable, the heteroscedastic error specification, and the double-hurdle parameterization all complicate the interpretation of parameter estimates and, hence, the ability to easily evaluate the effects of explanatory variables on the dependent variable. This can be overcome by decomposing the unconditional mean of the dependent variable y_i into the probability and the conditional mean of consumption. Then, marginal responses or elasticities can be evaluated for these components of the dependent variable.[4]

Data and Variables

The sample for the present study was drawn from the Bureau of Labor Statistics' 1989 and 1990 Consumer Expenditure Diary Surveys. The diary surveys were conducted on sampled consumer units during two consecutive one-week periods. For this study, the two-week period for each household was the period of observation. Per capita household expenditures on total FAFH, breakfast, lunch, and dinner during the two-week period were the dependent variables.

Table 1. Sample statistics: FAFH by meal type and explanatory variables

	Full sample		Consuming households		
	Mean	St. dev.	Mean	St. dev.	N
Per-capita FAFH expend. ($/2 wks.)					
Total	19.38	22.57	21.43	22.79	3140
Breakfast	1.48	4.41	3.69	6.34	1395
Lunch	8.13	9.80	9.55	9.96	2954
Dinner	9.77	14.32	12.30	15.07	2756
Wife's employment (hrs/wk.)					
Observed	25.17	18.58			
Predicted[a]	23.94	7.39			
Number of earners	2.01	0.79			
Household composition					
Aged ≥ 6	0.72	1.12			
Aged 7-18	0.69	0.97			
Aged 19-44	1.50	0.87			
Aged 45-64	0.58	0.85			
Aged ≤ 65	0.11	0.41			
Income per capita ($00/2 wks.)	10.87	8.56			
Dummy variables (yes=1; no=0)					
Homeowner	0.73				
White	0.91				
Wife high-school educated	0.51				
Wife college educated	0.44				
Rural (reference group)	0.14				
Urban Northeast	0.17				
Urban Midwest	0.23				
Urban South	0.26				
Urban West	0.21				
Spring (reference)	0.16				
Summer	0.24				
Fall	0.28				
Winter	0.33				

SOURCE: Compiled from BLS' 1989 and 1990 Consumer Expenditure (Diary) Surveys.
[a] Predicted from ML Tobit estimates of the wife's labor supply equation.

Estimation of the double-hurdle models requires the selection of two separate sets of regressors. One primary explanatory variable of interest is wife's labor hours. This variable has been found to be endogenous in FAFH consumption. Therefore, use of the observed labor hours in the expenditure equation, which ignores such endogeneity, will cause simultaneous equation bias (Bryant 1988). To avoid such bias, the variable for wife's labor hours was predicted using ML Tobit estimates of the wife's labor supply equation. The explanatory variables in the labor supply equation included number of pre-school children, age of wife, husband's wage earning, and dummy variables indicating education, home ownership, race, and regions.

The other variables used as predictors of expenditures include the number of earners, household age composition, education, per-capita income, and dummy variables indicating home ownership, race, education, region, and season during which the interview took place, all of which were found to be important determinants in previous studies of FAFH.

This study focuses on husband-and-wife households in which the husband was employed. Households with missing information for any of the above variables were excluded, as were households that completed only one week of the survey. This resulted in

a final sample of 3471 observations, of which 1993 came from the 1989 Diary Survey and 1478 from the 1990 Diary Survey. Of the final sample, 3140 households (or 90.46 per cent) reported expenditure on FAFH during the two-week period. The proportions of consuming households for each specific meal-type are lower. Table 1 includes definitions of the variables used and sample statistics.

Empirical Results

The IHS double-hurdle model was estimated for total FAFH, and breakfast, lunch, and dinner away from home. One major specification issue in estimation of the model is selection of variables to account for the first- and second hurdles; the number of variables is typically limited and theory provides little guidance. Regressors believed *a priori* to be significant determinants of participation and others with statistically significant effects in preliminary analysis were included in the final probit specification of the participation equation. The whole set of variables was used in the consumption equation.

Another specification issue is the choice of variables for the heteroscedastic equation. The household age composition variables were selected for the heteroscedastic equation. The variance-covariance matrix of parameter estimates was derived by inverting the numerical Hessian of the log-likelihood function. Because predicted labor hours was used as a regressor, the variance-covariance matrix was also adjusted (Yen 1993).

For all commodities considered, the IHS parameter (θ) is significantly different from zero, which indicates the condition of nonnormality in the expenditure data and the need for the transformation. Household age composition variables are significant in the heteroscedasticity equation. Thus, the homoscedasticity assumption is also rejected.

In summarizing the parameter estimates, a number of variables appear to affect participation and consumption differently. For instance, for lunch, the age composition variables have conflicting signs in the participation and consumption equations. Similar patterns are observed for age composition and a number of other variables in the breakfast equation. These conflicting signs of variables highlight one of the advantages of the double-hurdle parameterization and the importance of examining the effects of variables by elasticities.

Table 2 presents the elasticities of probability, conditional and unconditional level, along with the results of tests of statistical significance. The standard errors for elasticities were calculated using mathematical approximation. The estimated effects on probability explain the binary decision on consumption, i.e., to consume or not to consume. The effects on the conditional level explain what make those consuming to consume either more or less. The effects on the unconditional level provide an overall assessment of the variable's contribution to the consumption level by increasing (or decreasing) either the probability or conditional level. The elasticities are evaluated at the sample means of variables.[5] Overall, these elasticities suggest that household demographics are important factors in FAFH consumption, as are seasonality and region. The effects of these variables are consistent across all meal types. Among the more notable results are significant effects of home ownership, which are in line with findings by Soberon-Ferrer and Dardis (1991). College education has a significant and positive effect on both probability and levels of consumption of lunch and total FAFH; it does not have a significant effect on lunch and affects dinner consumption only by increasing the probability to consume. Similar, although weaker, effects are observed for high school education.

All age composition variables have significant and negative effects on per-capita consumption of all types of meals away from home, and the elasticities differ across age categories and meal types. Income effects are significant and positive. Except for lunch, all regional dummies have significant and positive effects on the probability and levels of consumption. This result suggests that urban households consume more FAFH, in total and by meal types, than their rural counterparts. Seasonal effects also indicate less consumption of FAFH in summer and winter, although the seasonal effects of breakfast and lunch are not as strong. The negative effects of seasonal and regional dummies may also reflect the effects of prices.

Wife's employment, conditional on holding number of earners constant, has only a marginally positive and significant effect on the conditional level of lunch consumption; the effects on all other meals are not significant. The negative, although insignificant, effects of wife's employment are in line with previous findings that as housewives devote more time to work, consumption of FAFH decreases because consumption is time consuming.

It is sometimes argued that evaluating the effects of discrete variables by elasticities is not strictly correct. For each of the binary variables, the effects on probability, conditional level, and unconditional level of consumption are calculated as the finite changes in these components of consumption as the value of the variable changes from zero to one, evaluated at the sample means

Table 2. Elasticities With Respect to Exogenous Variables*

Variable	Total			Breakfast		
	Prob	Cond level	Uncond level	Prob	Cond level	Uncond level
Homeowner	0.03**	0.06**	0.09**	0.09**	0.08**	0.17**
No. earners	0.07**	0.19**	0.26**	0.20**	0.17**	0.37**
Aged ≤ 6	-0.01**	-0.20**	-0.21**	-0.03	-0.27**	-0.30**
Aged 7-18	-0.01**	-0.14**	-0.15**	-0.03*	-0.24**	-0.27**
Aged 19-44	-0.06**	-0.25**	-0.31**	-0.14*	-0.39**	-0.53**
Aged 45-64	-0.04**	-0.09**	-0.13**	-0.10**	-0.06	-0.16**
Aged ≥ 65	-0.01**	-0.02**	-0.03**	-0.01	-0.03	-0.03*
Income	0.04**	0.24**	0.28**	0.12**	0.10**	0.22**
Wife's emp.	-0.02	-0.04	-0.05	-0.23	-0.19	-0.41
White	0.03**	0.06	0.09*	-0.02	-0.02	-0.04
High School	0.03**	0.06	0.09	0.06	0.05	0.11
College	0.05**	0.11**	0.15**	0.07	0.05	0.12
Northeast	0.003**	0.05**	0.05**	0.05**	0.04**	0.09**
Midwest	0.002**	0.03**	0.03**	0.05**	0.04**	0.10**
South	0.003**	0.05**	0.06**	0.06**	0.05**	0.11**
West	0.002**	0.03**	0.03**	0.04**	0.03**	0.08**
Summer	-0.001*	-0.02*	-0.02*	-0.01	-0.01	-0.02
Fall	0.000	0.01	0.01	0.00	0.00	0.00
Winter	-0.002**	-0.04**	-0.04**	-0.03**	-0.03**	-0.06**

Variable	Lunch			Dinner		
	Prob	Cond level	Uncond level	Prob	Cond level	Uncond level
Homeowner	0.02**	0.06**	0.08**	0.04**	0.04	0.08**
No. earners	0.08**	0.22**	0.30**	0.10**	0.05	0.15*
Aged ≤ 6	-0.01*	-0.17**	-0.18**	-0.02**	-0.10**	-0.21**
Aged 7-18	-0.01	-0.09**	-0.10**	-0.02**	-0.17**	-0.18**
Aged 19-44	-0.13**	-0.23**	-0.36**	-0.04	-0.27**	-0.30**
Aged 45-64	-0.05**	-0.07**	-0.12**	-0.05**	-0.07**	-0.12**
Aged ≥ 65	-0.01**	-0.02*	-0.02**	-0.01**	-0.02*	-0.03**
Income	0.08**	0.22**	0.29**	0.07**	0.24**	0.31**
Wife's emp.	0.01	0.03*	0.04	-0.05	-0.02	-0.07
White	0.00	0.00	0.00	0.10**	0.08	0.18**
High School	0.04**	0.10**	0.14**	0.04**	0.03	0.07
College	0.05**	0.13**	0.18**	0.06**	0.09	0.15**
Northeast	0.01**	0.03**	0.04**	0.01**	0.04**	0.05**
Midwest	0.01	0.02	0.02	0.01*	0.03**	0.04**
South	0.01**	0.04**	0.05**	0.01**	0.04**	0.05**
West	0.004	0.01	0.02	0.01*	0.03**	0.03**
Summer	-0.01**	-0.04**	-0.05**	0.000	0.002	0.003
Fall	-0.001	-0.002	-0.00	0.001	0.006	0.008
Winter	-0.01**	-0.04**	-0.05**	-0.01*	-0.03**	-0.04**

Asterisks indicate levels of significance: ** Significant at 5%
* Significant at 10%

Table 3. Effects of Binary Variables[a]

Variable	Total			Breakfast		
	Prob	Cond level	Uncond level	Prob	Cond level	Uncond level
Homeowner	0.046	1.430	2.184	0.053	0.318	0.292
White	0.037	1.245	1.832	-0.010	-0.063	-0.059
High School	0.056	2.095	3.028	0.047	0.294	0.273
College	0.092	4.721	6.167	0.061	0.382	0.355
Northeast	0.012	5.444	5.345	0.111	0.759	0.725
Midwest	0.006	2.245	2.215	0.099	0.661	0.627
South	-0.010	4.029	3.969	0.093	0.609	0.576
West	0.007	2.516	2.481	0.082	0.541	0.512
Summer	-0.005	-1.393	-1.382	-0.015	-0.091	-0.084
Fall	0.001	0.412	0.408	0.000	0.002	0.002
Winter	-0.007	-2.091	-2.073	-0.042	-0.256	-0.236

Variable	Lunch			Dinner		
	Prob	Cond level	Uncond level	Prob	Cond level	Uncond level
Homeowner	0.026	0.598	0.698	0.042	0.582	0.925
White	0.001	0.023	0.028	0.106	0.915	1.825
High School	0.061	1.509	1.749	0.065	0.661	1.244
College	0.088	2.313	2.668	0.115	2.087	2.994
Northeast	0.043	1.214	1.394	0.031	2.690	2.624
Midwest	0.019	0.495	0.572	0.019	1.450	1.422
South	0.041	1.115	1.284	0.022	1.710	1.676
West	0.018	0.466	0.538	0.019	1.432	1.404
Summer	-0.047	-1.054	-1.227	0.002	0.111	0.109
Fall	-0.002	-0.045	-0.052	0.004	0.250	0.246
Winter	-0.034	-0.809	-0.940	-0.015	-0.993	-0.981

[a] Computed at the sample means as the changes in probability, conditional level, and unconditional level as the value of each binary variable changes from zero to one.

of all other variables. Table 3 presents selected results. Relative to other groups, homeowners are about 4.6 percent more likely to consume total FAFH and, conditional on consumption, consume about $1.43 more per person during the two-week period. Overall, the effect on the unconditional level suggests homeowner consume about $2.18 more per person. The interpretation of other dummy variables is similar. Overall, the effects of variables differ across meal types.

Concluding Remarks

This study investigates FAFH consumption using an econometric model that accommodates zero observations in the sample. Parameterization of the model allows for separate decision processes on participation and level of consumption, and the stochastic specification accommodates nonnormality and heteroscedasticity of the error terms. We find wife's employment has a positive effect on the level of lunch consumption away from home, but not the other types of meals. Income effects are significant and positive. Decreases in real income will lead to reductions in FAFH expenditures. This suggests the contributing role of the income effects in the declining growth of per-capita FAFH consumption in the 1990s. The roles of demographics, region, and seasonality are also important. Overall, the effects of most variables differ on the consumption of different types of meals away from home.

The fact that there are significant differences in

the contribution of income and other demographic factors in predicting meal expenditure patterns is consistent with models of consumer behavior that recognize constraints on household members' time and differences in production of the household meal commodities. Although estimation of total FAFH captures the overall effects of income, wive's labor force participation and other demographics, the differences associated with the probability and the level of expenditure of specific meals suggest consideration of meals separately for the development of selected consumer education programs and specific regulations which affect available consumer information. For example, relatively greater responsiveness of the 19-44 and 45-64 year old age groups on the probability of consuming breakfast away from home suggests opportunities for expanded FAFH markets for this age group at breakfast. On the other hand, few differences among consumers with different educational backgrounds for the breakfast estimates indicate that one should not expect that consumers of different educational background would respond differently to targeted information for this meal, in contrast to the results indicated by the total FAFH estimates.

Whether these results continue to hold as lifestyles change and meal and snacking patterns evolve in response to changes in work and household demands is a question that cannot be resolved by the type of analysis presented here. "Take-out food" options have been increasing recently, meeting new needs for convenience without costs associated with time in consuming FAFH. As options for collecting the structure of data which describe food consumption and expenditures, both at home and away, are considered, increasing attention will need to be paid to the availability and form of products which meet consumers' interest in convenient food, and food which meets needs for nutrition and other desired attributes.

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Endnotes

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3. See Lin and Schmidt (1984) for problems with Tobit parameterization.
4. The decomposition of the unconditional mean is similar to that of McDonald and Moffitt (1980) for the standard Tobit model.
5. Another option is to evaluate the elasticities at each sample point and then average the estimates, as one reviewer pointed out. However, calculation of the elaticities and standard errors for the estimated model requires numerical integration and differentation many times. It is not feasible.

Welfare Analysis of Agricultural Policies Using Complete Demand Systems for Different Representative Households in the U.S.

The welfare impacts of two agricultural policy scenarios on twelve different representative households in the United States are evaluated using the Almost Ideal Demand System(AIDS) for foods and beverages. The government policy scenarios examined are possible imposition of a sin tax on alcoholic beverages and possible elimination of the price support program for dairy industry. Both methodology and results may be useful for policy makers, policy analysts, and consumer interests.

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Introduction

Government agricultural policies such as taxation and price support programs often result in changes in the market prices of food and beverages. These price changes may benefit or adversely affect consumers of food and beverages. Therefore, it is important to measure and assess these welfare changes, i.e., to examine the money metric degree of impacts of agricultural policies on the consuming public.

In general, the measurement of welfare change for an individual household due to market price changes can be theoretically carried out by computing the exact money metric compensating variation(CV) or equivalent variation(EV)(Hicks, 1942; Boadway and Bruce, 1984). Normally, the CV and EV can be calculated based on an expenditure function, but the integrability from demand functions to the expenditure function often causes theoretical and empirical difficulties(Chern,1991), especially in the case of a single equation with multiple price determinants. In dealing with these difficulties, Chipman and Moore(1980), Hausman(1981), King(1983), Randall and Stoll(1980), Vartia(1983), and Willig(1976) have made considerable contributions in calculating the CV and EV using the Marshallian consumer's surplus measures. Recently, LaFrance(1991) has advocated the use of an incomplete demand system to deal with this measurement problem. In fact, many commonly used complete demand systems have their well defined expenditure functions and indirect utility functions which can be used to calculate the exact CV or EV (Chern,1991). However, there exist very few empirical applications in which a complete demand system is used to obtain the money metric welfare change.

The objective of this paper is to evaluate the welfare changes for different representative households under two agricultural policy scenarios, which are possible imposition of a sin tax on alcoholic beverages and possible elimination of price support program for the dairy industry. A well defined expenditure function in the Almost Ideal Demand System(AIDS)(Deaton and Muellbauer, 1980) for food and beverage consumption will be used to calculate the exact welfare change measures of CV and EV for twelve different representative households, which are defined as having different household compositions, different income levels, and different races. The monthly expenditure data(January 1980 to December 1990) of different representative households for twenty aggregate commodities of food and beverages are calculated from the public use tapes of BLS's Consumer Expenditure (Diary) Survey. These data are combined with monthly data of corresponding Consumer Price Index(CPI) to estimate the AIDS models for different representative households.

The paper is arranged as follows: (a)procedures of calculating CV and EV using the AIDS model and the definition of price elasticity of welfare; (b)data and classification of representative households; (c)discussion of model estimation; (d)evaluation of welfare changes to different representative households under the two policy scenarios; and (e)conclusion.

Measuring Welfare Changes with the AIDS Model

In the AIDS model, the expenditure function, $e(\mathbf{p},u)$, is defined as

$$\log\{e(\mathbf{p},u)\} = (1-u)\log\{a(\mathbf{p})\} + u\log\{b(\mathbf{p})\} \quad (1)$$

where **p** is a price vector; $a(\mathbf{p})$ and $b(\mathbf{p})$are positive linearly homogeneous function in **p**; u is a utility level which may take a number between 0 (subsistence) and 1 (bliss) so that $a(\mathbf{p})$ and $b(\mathbf{p})$ can be regarded as the expenditures of subsistence and bliss, respectively. Equation (1) represents a specific class of preference, the "price-independent generalized linear logarithm" (PIGLOG)(Muellbauer 1975,1976), which permits exact aggregation over households, i.e., the representation of market demands as if they were the outcome of decisions by a rational representative household.

Given specific functional forms for $\log\{a(\mathbf{p})\}$ and $\log\{b(\mathbf{p})\}$(Deaton and Muellbauer,1980), the expenditure function can be written aspercentage changes in welfare based

$$\log\{e(\mathbf{p},u)\} = \alpha_0 + \Sigma\, \alpha_k \log p_k + (1/2)\Sigma\Sigma\, \gamma_{kj} \log p_k \log p_j + u\, \beta_0 \Pi(p_k)^{\beta_k} \qquad (2)$$

where p_k is the price of kth commodity consumed by the household; α_k, β_k, and γ_{kj} are parameters. In order to meet the requirements that $a(\mathbf{p})$, $b(\mathbf{p})$, and $e(\mathbf{p},u)$ are linearly homogeneous in **p**, the parameters should satisfy: $\Sigma\, \alpha_k=1$, $\Sigma\, \gamma_{kj} = \Sigma\, \gamma_{jk} = \Sigma\, \beta_k = 0$. Also, the symmetry of the second derivative of $\log\{e(\mathbf{p},u)\}$ with respect to p_k and p_j requires $\gamma_{kj} = \gamma_{jk}$.

Using the duality theory, the Marshallian demand functions in budget share form can be derived as

$$w_i = \alpha_i + \Sigma\, \gamma_{ij} \log p_j + \beta_i \log(m/P^*) \qquad (3)$$

where w_i is budget share of ith commodity; m is total expenditure for the household; P^* is a price index and can be approximated by the Stone price index(Deaton and Muellbauer,1980).

The indirect utility function can be obtained based on equation(2):

$$u = V(\mathbf{p},m) = \{\log m - \alpha_0 - \Sigma \alpha_k \log p_k - (1/2)\Sigma\Sigma\, \gamma_{kj} \log p_k \log p_j\} / \{\beta_0 \Pi(p_k)^{\beta_k}\} \qquad (4)$$

For the CV and EV calculation, we can use the estimated resulis of equation (3), i.e., α_i, γ_{ij}, and β_i, which are estimated based on observed data, w_i, p_i, and m.

Given a starting point $(\mathbf{p}^0, m^0)$ and an ending point $(\mathbf{p}^1, m^1)$ of income change and price changes, equation (4) can be used to calculate $u^0 = V(\mathbf{p}^0, m^0)$ and $u^1 = V(\mathbf{p}^1, m^1)$. Then , equation (2) can be used to calculate $\log e(\mathbf{p}^0,u^0)$, $\log e(\mathbf{p}^1,u^0)$, $\log e(\mathbf{p}^0,u^1)$, and $\log e(\mathbf{p}^1,u^1)$, where, as we know, $m^0 = e(\mathbf{p}^0,u^0)$ and $m^1 = e(\mathbf{p}^1,u^1)$. Finally, the CV and EV can be calculated as follows:

$$CV = m^1 - e(\mathbf{p}^1,u^0) = m^1 - \exp\{\log e(\mathbf{p}^1,u^0)\} \qquad (5)$$

and

$$EV = e(\mathbf{p}^0,u^1) - m^0 = \exp\{\log e(\mathbf{p}^0,u^1)\} - m^0. \qquad (6)$$

Also, we can calculate the on the total expenditure of starting point, i.e.,

$$pcv = CV/m^0 \qquad (7)$$

where pcv is percentage change of welfare with CV. And, we can define a so-called welfare-price elasticity (or price elasticity of welfare) as:

$$e_{iw} = pcv/(\Delta p_i/p_i) \qquad (8)$$

or

$$e_{gw} = pcv/(\Delta p_g/p_g) \qquad (9)$$

where e_{iw} or e_{gw} is the price elasticity of welfare due to a percent change in the price of commodity i $(\Delta p_i/p_i)$ or in the prices of a commodity group g $(\Delta p_g/p_g)$. Normally, e_{iw} or e_{gw} should have a negative sign which means welfare decreases as the price(s) of a commodity(or commodity group) increases. But, a positive sign may exist when the effects of substitutes and/or compliments of the commodity(or commodities of the group) are very strong, a special reason for using a complete demand system.

To calculate CV and EV, the estimates of α_0 and β_0 have to be obtained first. Unfortunately, they can not be derived from equation (3). According to Deaton and Muellbauer(1980), since α_0 can be interpreted as the outlay required for a minimal standard of living when prices are unity, it is possible to assign a plausible value to α_0 a priori. In fact, α_0 and β_0 should be a pair of adjustment parameters, which adjust the range of u based on equation (4) after the other estimated parameters are derived. Therefore, α_0 and β_0 can be selected on the basis that u lies between 0 and 1. If α_0 and β_0 are arbitrarily chosen, u will not have the values between 0 and 1, but u will hold its ordinary preference for the same representative household. In this paper, we choose $\alpha_0 = 0$ and $\beta_0 = 1$.

Data and Representative Households

The expenditure data used in this study are

obtained from the Consumer Expenditure Survey(CES) which has been continuously conducted by the Bureau of Labor Statistics each year since 1980. The CES survey includes two components: quarterly interview panel survey for major consumption commodities(goods and services) and the weekly dairy survey on frequently purchased items such as food and beverages. Only expenditure data associated with other social demographic variables for each household are documented in the CES survey(also in survey tapes). This study covers 11 years of the diary CES surveys from 1980 to 1990. There are more than ten thousands of observations each year(see Table 1). In order to correctly classify households using income level, we delete those households with zero or negative income(before taxes), so that the numbers of households used for this study are reduced as shown in Table 1.

Table 1
Sample Size in the CES(Diary) Survey

Year	Households Surveyed	Households With Positive Income
1980	10,433	8,810
1981	10,547	8,695
1982	10,927	9,224
1983	10,792	9,169
1984	11,873	9,925
1985	11,619	9,797
1986	12,817	10,957
1987	13,098	11,227
1988	11,413	9,727
1989	11,470	9,787
1990	11,651	9,952

Because of these huge numbers of observations, it is computationally cumbersome to use the pooled cross-sectional and time-series data from the CES survey. Hence, for the purpose of this study, we classify households into different representative households and then calculate average weekly expenditures by month(time-series data) for each representative household.

Table 2
Definitions and Features of Representative Households

Type	Definition	Average Monthly Sample Size	Average Annual Income,$	Average Weekly Food Expense,$	Average Household Size
FAMT1	Single person only	231(65)	13288(3147)	36.04(6.40)	1.00(0.00)
FAMT2	Husband & wife only	171(51)	27288(5661)	65.90(9.95)	2.00(0.00)
FAMT3	Single parent with at least 1 child	49(14)	13862(3230)	53.13(12.1)	2.99(0.25)
FAMT4	Husband & wife with at least 1 child	185(52)	31737(6465)	84.47(12.6)	3.97(0.10)
FAMT5	All other structures	176 (46)	28483(5679)	101.37(11.2)	3.64(0.19)
INGP1	1st income group(25%)	202 (53)	4308(1087)	38.46(7.8)	1.94(0.18)
INGP2	2nd income group(25%)	203 (53)	13242(2792)	52.19(8.55)	2.37(0.14)
INGP3	3rd income group(25%)	203 (53)	25482(4907)	70.58(9.77)	2.80(0.15)
INGP4	4th income group(25%)	205 (53)	51694(10831)	98.04(13.6)	3.20(0.14)
RACE1	White household head	700(185)	24633(4902)	66.71(8.87)	2.54(0.09)
RACE2	Black household head	87(24)	16033(4146)	47.42(10.3)	2.78(0.29)
RACE3	Household head with other races	26 (10)	27120(8282)	77.86(21.0)	3.19(0.55)
TOTAL	All households	812(212)	23790(4829)	64.95(8.92)	2.58(0.09)

Note: The numbers in the parentheses are standard errors; RACE3 is not considered in the study because of a small monthly sample size and a relatively large standard error.

To effectively differentiate and classify all households in the U.S., three demographic factors are considered, i.e., household composition, household income level, and race of household head, because they have more significant effects on the demand of food and beverages than others.

Based on information of family type and number of children under 18 years old in the CES survey tapes, five types of household compositions are classified: households with single person only(FAMT1); households with husband and wife only(FAMT2); households with a single parent who has at least one child under 18 years old(FAMT3); households with husband and wife who have at least one child under 18 years old(FAMT4); and households of all other compositions(FAMT5).

Using the relative household income(before taxes) levels in the monthly sample, four representative households are considered in this study: first group of households(25% in monthly sample) with lowest income; second group of households(25%) with lower-middle income; third group of households(25%) with upper-middle income; and fourth group of households(25%) with highest income. For convenience, INGP1, INGP2, INGP3, and INGP4 are used to denote these four types of representative households, respectively.

The information of household head's race are used to classify households into three representative households: White; Black; and other races. The symbols, RACE1, RACE2, and RACE3 are given to represent these three types of households. However, RACE3 will not be considered in this study because it has very small monthly sample sizes (see Table 2).

Finally, an overall representative household is constructed based on information of all households to capture the characteristics of all households of U.S. The 'TOTAL' is given to represent the overall representative household.

For each representative household, the average monthly data are calculated based on the CES survey tapes(1980-1990). The monthly data include weekly expenditures of twenty major groups of food & beverages, which are listed in the first column in Table 3 and denoted as x_i (i =1, 20). To account for the prices of twenty commodities of food and beverages, the corresponding consumer price indexes (CPI) are obtained from the BLS's Consumer Price Index tape. The base year of the CPIs is 1982-84. We assume each representative household faces the same price(CPI) series.

Estimation

For different representative households in the U.S., the welfare changes due to changes in the price of food and beverage may be different because different representative households may have different demand (functions) or preferences for food and beverages. In this study, we assume that different representative households have the same demand specification but different parameters to account for their different preferences.

In order to apply the AIDS model, we assume a specific representative household make consumption decisions using a two-stage maximization (Pollak,1971). In the first stage, the representative household allocates its income among food & beverages and other non-food items, and in the second stage, the budget for food and beverages is allocated to twenty foods and beverages. The budget constraint in the second stage can be expressed as $\Sigma\, p_i x_i = m$, where m is total food and beverage expenditure.

The theoretical AIDS model in equation (3) is modified by adding three seasonal dummy variables(one for the months of 2nd quarter, one for the months of 3rd quarter, and the other for the months of 4th quarter), and four structural dummy variables (one for the months in 1982-83, one for the months in 1984-85, one for the months in 1986-88, and the other for the months in 1989-90) for capturing the possible structural changes of food and beverage consumption in the U.S. As usually done, the lagged Stone price index (i.e. $\Sigma\, w_{it-1}\log p_{it}$) is used to replace P* in the AIDS model(i.e., LA/AIDS model). Also, the homogeneity and symmetry restrictions are imposed in model estimation.

Using the data set ($p_i x_i$, p_i, i =1,20, and m) of each representative household, the AIDS model is estimated separately for each representative group. The majority of estimated parameters for each representative household are statistically significant, and the majority of own-price elasticities of 20 foods are negative. Due to space limitation , the regression results can not be all presented here, but they are available by request from the authors (All estimations and the following calculations of CVs and EVs are done by SAS in a mainframe computer, and the nonlinear ITSUR method is used to estimate the AIDS model).

Table 3
Selected Results of Estimation for Overall Representative Household

Variable	Mean ($)	Share (%)	Expenditure Elasticity	Own-price Elasticity	Adj. R^2	D-W
x_1, Cereals	1.88	2.74	0.532	-0.998	0.692	2.344
			(0.41)	(0.31)	(0.117)	(0.819)
x_2, Bakery	3.75	5.50	0.651	-1.614	0.454	2.440
			(0.58)	(0.33)	0.084)	(1.029)
x_3, Beef	4.08	6.11	0.658	-0.969	0.740	2.443
			(0.51)	(1.24)	(0.178)	(0.331)
x_4, Pork	2.36	3.52	1.104	-0.923	0.569	1.853
			(0.31)	(0.61)	(0.196)	(0.216)
x_5, Other meat	1.66	2.46	0.881	-3.578	0.490	2.003
			(0.19)	(0.28)	(0.149)	(-0.815)
x_6, Poultry	1.70	2.51	0.473	-0.746	0.393	2.719
			(0.28)	(0.34)	(0.186)	(0.241)
x_7, Seafood	1.28	1.87	1.349	-2.493	0.258	2.313
			(0.23)	(0.23)	(0.194)	(0.543)
x_8, Eggs	0.62	0.93	0.578	-0.290	0.846	2.034
			(0.08)	(0.20)	(0.152)	(0.088)
x_9, Fluid milk	2.56	3.79	0.529	-1.077	0.721	2.105
			(0.20)	(0.37)	(0.097)	(0.530)
x_{10},Other dairy	2.67	3.93	0.796	-1.108	0.033	1.854
			(0.35)	(0.25)	(0.144)	(1.201)
x_{11},Fresh fruits	2.04	2.99	1.239	-0.640	0.498	1.901
			(0.48)	(0.50)	(0.203)	(0.038)
x_{12},Fresh vegetables	1.98	2.90	0.845	-0.450	0.352	1.839
			(0.34)	(0.27)	(0.130)	(0.087)
x_{13},Pro. fruits	1.51	2.22	0.726	-1.031	0.225	2.206
			(0.23)	(0.18)	(0.128)	(0.349)
x_{14},Pro. vegetables	1.11	1.64	0.462	-0.612	0.579	2.137
			(0.18)	(0.21)	(0.156)	(0.566)
x_{15},Sweets	1.50	2.21	0.974	0.302	0.466	2.624
			(0.36)	(0.47)	(0.282)	(0.662)
x_{16},Fats & oils	1.08	1.60	0.484	0.116	0.657	2.454
			(0.12)	(0.16)	(0.112)	(0.336)
x_{17},Nonalc.bev.	3.66	5.39	0.751	-0.904	0.321	1.901
			(0.50)	(0.40)	(0.110)	(0.321)
x_{18},Misc. food	4.71	6.83	0.662	-1.883	0.828	2.345
			(1.16)	(0.93)	(0.105)	(1.162)
x_{19},Food away	22.26	32.47	1.304	-1.489	0.658	2.061
			(4.43)	(2.89)	(0.092)	(0.736)
x_{20},Alc. bev.	5.63	8.37	1.569	-2.679	------	------
			(0.80)	(1.37)	------	------

Note: The numbers in the parentheses are estimated standard errors. D-W is Durbin-Watson statistics.

In this paper, only selected estimation results for the overall representative household are given in Table 3. As one can see, the own-price elasticities of most commodities are negative and statistically significant except for sweets(x_{15}) and fats & oils(x_{16}), which are statistically insignificant. The expenditure elasticities indicate that all commodities are normal goods while pork, seafood, fresh fruits, food away from home, and alcoholic beverages have an expenditure elasticity greater than unity. The Durbin-Watson statistics show that either no or very weak autocorrelation exists. In addition, the estimated seasonal coefficients (not reported here) for beef, pork, other meats, and fresh milk are statistically insignificant; and the estimated structural coefficients for cereals, poultry, other dairy products, fresh fruits, fresh vegetables, fats & oils, and nonalcoholic beverages are not statistically significant. All other estimates of seasonal and structural coefficients are significant.

Overall, the estimated results for the representative household are mostly consistent with those of several previous studies using complete food demand systems (e.g., Heien,1982; Huang and Haidacher, 1983). For the models of other representative households, the results of estimation are similar to those of the overall representative household in terms of statistical significance.

Policy Scenarios and Welfare Changes

Two agricultural policy alternatives are considered in this paper: (a) Possible elimination of price support program for dairy products(Scenario A). If the support program is eliminated, the market prices of dairy products(x_9 and x_{10}) will decrease to match the competitive equilibrium prices. According to previous studies(LaFrance, 1991; Dardis and Bedore,1990), the percentage of price falls will be in the range of 10% to 20%. Here, three possible consequences are considered: 5%, 10%, and 20% of price falls for the two dairy products included in the model. (b) Possible imposition of a new alcoholic beverage tax(Scenario B). This is the so-called 'sin' tax policy, by which the government hopes to reduce the budget deficit and justifies this policy on the basis that alcoholic beverages(x_{20}) are 'sin' luxury goods. Three possible increases of alcoholic beverage prices resulting from this tax are considered: 1%, 5%, and 10%.

The baseline for computing and comparing the welfare changes due to the two possible policy scenarios is constructed on the historical average levels of total food and beverage expenditures, m , for each representative household and the historical average CPI levels of twenty commodities of food and beverages. In the following calculation of welfare changes, we assume total food and beverage expenditure of each representative household is unchanged but price (CPI) levels change from average level to a new level that is resulted from a specific scenario.

Table 4
Welfare Changes under Scenario A($ per week, value of 1982-84)

Type of Household (m)	Mean	Decrease 5%			Decrease 10%			Decrease 20%		
	($)	CV($)	pcv(%)	e_m	CV($)	pcv(%)	e_m	CV($)	pcv(%)	e_m
FAMT1	36.04	0.18	0.50	-0.099	0.37	1.03	-0.103	0.79	2.19	-0.109
FAMT2	65.90	0.79	1.20	-0.241	1.62	2.46	-0.246	3.40	5.16	-0.258
FAMT3	53.13	1.30	2.46	-0.491	2.62	4.94	-0.494	5.31	9.99	-0.499
FAMT4	84.47	1.59	1.89	-0.377	3.25	3.85	-0.385	6.80	8.05	-0.403
FAMT5	101.37	4.13	4.07	-0.815	8.28	8.17	-0.817	16.67	16.45	-0.822
INGP1	38.46	0.06	0.14	-0.029	0.12	0.31	-0.031	0.27	0.71	-0.036
INGP2	52.19	0.80	1.54	-0.308	1.63	3.12	-0312	3.37	6.46	-0.323
INGP3	70.58	0.89	1.26	-0.253	1.81	2.57	-0.257	3.74	5.30	-0.265
INGP4	98.04	2.03	2.07	-0.414	4.13	4.21	-0.421	8.56	8.73	-0.437
RACE1	66.71	0.87	1.31	-0.262	1.78	2.67	-0.267	3.73	5.59	-0.280
RACE2	47.42	1.05	2.21	-0.442	2.14	4.52	-0.452	4.49	9.46	-0.473
TOTAL	64.95	0.98	1.50	-0.301	1.99	3.07	-0.307	4.17	6.42	-0.321

Table 5
Welfare Changes under Scenario B ($ per week, value of 1982-84)

Type of Household (m)	Mean	Increase 1%			Increase 5%			Increase 10%		
	($)	CV($)	pcv(%)	e_m	CV($)	pcv(%)	e_m	CV($)	pcv(%)	e_m
FAMT1	36.04	-0.06	-0.16	-0.159	-0.27	-0.75	-0.150	-0.51	-1.40	-0.140
FAMT2	65.90	-0.41	-0.63	-0.629	-2.08	-3.16	-0.632	-4.19	-6.36	-0.636
FAMT3	53.13	-0.04	-0.08	-0.078	-0.17	-0.33	-0.065	-0.27	-0.50	-0.050
FAMT4	84.47	+0.27	+0.32	+0.316	+1.29	+1.53	+0.306	+2.49	+2.95	+0.295
FAMT5	101.37	-0.34	-0.33	-0.332	-1.78	-1.76	-0.352	-3.81	-3.75	-0.375
INGP1	38.46	+0.19	+0.49	+0.489	+0.93	+2.41	+0.482	+1.82	+4.73	+0.473
INGP2	52.19	-0.17	-0.33	-0.332	-0.90	-1.72	-0.344	-1.87	-3.58	-0.358
INGP3	70.58	-0.50	-0.71	-0.707	-2.47	-3.51	-0.701	-4.91	-6.95	-0.695
INGP4	98.04	-0.27	-0.27	-0.273	-1.36	-1.39	-0.278	-2.79	-2.85	-0.285
RACE1	66.71	-0.13	-0.20	-0.199	-0.66	-0.99	-0.198	-1.30	-1.96	-0.196
RACE2	47.42	-0.20	-0.42	-0.424	-1.02	-2.15	-0.430	-2.07	-4.37	-0.437
TOTAL	64.95	-0.14	-0.22	-0.216	-0.71	-1.09	-0.218	-1.42	-2.19	-0.219

Based on the results of estimation from the AIDS models, the welfare changes of CV and EV for each representative household under two policy scenarios can be calculated and compared as follows(The values of EV are not presented in the tables because of space limitation. In all cases, EVs are slightly smaller than the corresponding CVs in absolute values.).

Welfare changes under Scenario A

Table 4 shows the estimated welfare changes under Scenario A. The results indicate that the elimination of price support program for dairy products has different welfare effects for different representative households in terms of both CVs and price elasticities of welfare. For example, the households with children or more members such as FAMT3, FAMT4, and FAMT5, will have a larger welfare gain due to the price falls of dairy products because they may consume more dairy products than other households and have higher total food & beverage expenditures. The households with higher income also have higher gains from the price changes because higher income households also consume more dairy products than lower income households. However, the black household receives more benefit from this policy scenario than the white household although black household has lower income as well as lower food & beverage expenditure. It may be resulted by higher black household's own-price elasticity of demand for dairy products. With respect to the price elasticities of welfare, the black household has higher values than white household. It means that the welfare of black household is more sensitively affected by price changes of dairy products. Among the households with different income, the welfare change of lowest income household is nearly perfectly inelastic with respect to price change. For different household compositions, FAMT5(more members) has the highest elasticity(-0.82), FAMT1(single) has the lowest elasticity(-0.10), and FAMT3 & FAMT4(with children) have higher but FAMT2(married couple only) has lower elasticities than that of TOTAL(-0.31).

Welfare changes under Scenario B

The welfare changes under scenario B are calculated in Table 5. For this scenario, the welfare changes exhibit either gains or losses for different representative households.

FAMT4(more members with children) and INGP1(lowest income) have positive price elasticities of welfare, implying that they will be better off when the price of alcoholic beverage increases because they tend to substitute other food and nonalcoholic beverages for alcoholic beverages. Among other household compositions, FAMT2(couple) has the highest elasticity(-0.63), while FAMT3(single parent w children) has the lowest elasticity(-0.07). It may be concluded that the households without children may suffer more loss from this policy scenario. For other three different income households, INGP3 has highest elasticity(-0.70), while INGP4 has lowest elasticity(-0.28), i.e., the middle income households will be more affected by the tax increase. Compared to the white household, the black household has a higher elasticity, so that the alcoholic beverage tax may have greater impact on the black than the white because the former may consume more alcoholic beverages.

Conclusion

In this paper, a well defined expenditure function in the AIDS model for food and beverages is used to calculate the CV and EV, two measures of welfare changes, for twelve different representative households in the U.S. Two government policy scenarios under investigation are the elimination of price support program for dairy industry and the imposition of sin tax on alcoholic beverages. Another measure based on the concept of price elasticity of welfare is also used as an indicator of welfare change due to price change. The results, which are useful for the policy makers, policy analysts, and consumer interests, are summarized as follows. If the dairy price support program is withdrawn by the government, the households with children, more members, higher income may receive more benefits from the decreased market prices of dairy products. Meanwhile, the black households can gain more welfare than the white household although the former has lower income. If the alcoholic beverage tax is imposed, the larger welfare loss will incur to the households who are black, middle income, or those without children , while a small gain may be attained by the married couples with children or the lowest income households.

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Endnotes

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Lifecycle, Financial and Attitudinal Characteristics of Charitable Donors

The 1989 Survey of Consumer Finance is used to test lifecycle, financial, and attitudinal variables related to the decision of gift/non-gift to charities and the amount gifted. Both logit and tobit analyses showed age, marital status, home ownership, race, education, income, retirement plans, networth, and attitudes toward inheritance as significant variables in the amount given to charity and the likelihood of being a donor.

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Introduction

Despite a weak and uncertain economy, individuals and businesses gave approximately $124.3 billion dollars to charity in 1992 (Giving USA, 1992). This was a 2.3 percent increase from 1991 when adjusted for inflation. Although individual donations accounted for almost 89 percent of the total amount given to charity, there is surprisingly little scholarly research on individual charitable donations. More specifically there is very little information about the donor's decision to give, the amount to give and characteristics of givers versus non givers. The purpose of this study is to differentiate the lifecycle, financial and attitudinal characteristics of households that gift and do not gift money to charity. Furthermore, the dollar amount of charitable gifts will also be examined with regard to financial, lifecycle and attitudinal characteristics.

Review of Literature

The term lifecycle has taken on various meanings but is commonly used to refer to different stages throughout a culture, person, or specie's life (O'Rand & Krecker, 1990). More specifically economists have treated the lifecycle concept as a framework from which fundamental assumptions are made explicit through the investment and consumption of household income.

In Thurow's (1969) paper "The Optimum Lifetime Distribution of Consumption Expenditures," a theoretical foundation on the financial and sociodemographic factors that contribute to charitable giving is found. Financial factors that affect the savings and consumption levels of the household in different stages of the household's lifecycle are presented. Furthermore, sociodemographic factors such as the household size, expected future income and expenses are considered in Thurow's (1969) paper.

In the earliest stage of the lifecycle (25-40 years of age) households are at their lowest level in earned income due to the lack of experience in their field or lack of education (Bryant, 1990). However households in this stage also have relatively high consumption needs (Thurow, 1969). Householders are purchasing durable goods, are most likely paying a mortgage and children are typically in the home. Discretionary income is limited at this stage and the propensity to give to charities may be curbed due to limited income and high levels of consumption.

In the middle stage of the lifecycle (41-55 years of age) the earning power of the householders peaks and consumption needs level off relative to income (Thurow, 1969). In the middle stage of the lifecycle people tend to be net savers because they anticipate retirement in their future and are trying to build up their resources (Bryant, 1990). Households in this stage of the lifecycle are more likely to donate to charity because of higher levels of income and relatively lower levels of consumption.

In the last stage of the lifecycle (56+ years of age) consumption levels have declined. Persons in this stage of the lifecycle are more likely to own their own homes and their overall net worth is probably at its peak (Bryant, 1990). If persons in this stage of the lifecycle are well prepared for retirement, they are perhaps the best candidates for making charitable gifts. Another consideration that may affect the propensity for persons in the latter stage of the lifecycle to give to charity is the need to settle their estate and avoid unnecessary taxes (Davidson and Chase, 1989).

Economic Theory & Donations

The Lifecycle theory has provided a useful theoretical foundation on charitable giving; however, specific models of money transfers in economic theory

are worthy of attention as well. The economist's approach to charitable giving is largely pragmatic in its logic. The efficiency of giving behavior as well as utility maximizing behavior for the donor is the main emphasis.

In economic literature Hochman and Rodgers (1973) are perhaps the most humanitarian in their approach to charitable giving in their paper on "Utility Interdependence and Income Transfers through Charity." The authors' premise regarding charitable transfers is found in the reasoning that an "individual's welfare is not a function solely of the stock of goods he may consume but also of the welfare of others...hence, the individual's utility function does contain an interdependent component reflecting his degree of identification with others." The authors claim that traditional economic theory lacks the ability to deal with income redistribution as well as how much should optimally be redistributed. In order to accommodate redistribution of income the authors part from the traditional model of rational behavior in the market place and assume a 'benevolent and Pareto-relevant' interdependence among the individual's utility functions.

Lifecycle Variables

Several studies have been conducted on lifecycle variables and their relation to charitable giving. The relationship between age and the effect on charitable giving is perhaps the most commonly examined lifecycle variable. Overall the age of the donor has had a positive linear effect on the amount of money donated to charity (Roistacher, Morgan and Juster, 1974; Harvey and McCrohan, 1988; Drollinger, 1992).

The education level of the donor is closely correlated with the income level of the individual so it is not surprising to find that education has also been found to have a positive effect on the amount donated to charity (Roistacher and Morgan, 1974; Harvey and McCrohan 1988). Furthermore, Roistacher and Morgan (1974) found that college education was the most important variable that influenced the amount of money given to charity when income was controlled for.

Borsky and Banacki (1961) reported that large givers were more likely to have no children in the home under the age of 18. This coincides with the lifecycle assumption that those persons in the later years of life would have fewer consumption needs due to a smaller household among other things. Marital status has also been found to be a significant variable with regard to charitable giving. Married persons were found to donate the largest amount to charity (Morgan, 1974; Roistacher and Morgan 1974).

The Independent Sector, which is funded by the U.S. government, conducts a biannual study on the volunteering and giving behavior of Americans. In a 1988 survey results from a representative sample of 2,775 individuals 18 years and older was used to ascertain who gives to charity and how much they give. Descriptive statistics of frequencies and averages were used in reporting the donation amount. Personal interviews were conducted to assess the amount of charitable donations and time volunteered in 1987. Univariable analysis revealed that whites gave 1.5 percent of their annual income whereas blacks gave 0.9 percent and Hispanics 0.5 percent of their annual incomes (Independent Sector, 1988).

Data on occupational status reveal charitable donors are more likely to be business owners or professionals (Thiessen, 1968). Thiessen (1968) also found that, when income was controlled, professionals still donated more than skilled craftsmen and middle managers. Results from the Independent Sector's (1988) survey are consistent with the findings of Thiessen.

Financial Variables

The income of the household has been a widely examined variable when investigating charitable donations. Reddy (1980) puts it quite succinctly when he states "the prime requisite for giving is having." A positive relationship between the amount given to charity and income has been found (Roistacher, Morgan and Juster, 1974; Borsky and Banacki, 1961; Harvey and McCrohan, 1988; Drollinger, 1992; Ferguson, 1993).

Home ownership was found to be positively correlated with charitable donations of time and money in a survey conducted by the Independent Sector (1988). Of all those persons surveyed who gave to charity, those households that owned their home gave 2.1 percent of their income, whereas renters only gave 1.4 percent of their income.

Research on the net worth of the household and charitable donations was conducted by Johnson and Rosenfeld (1991). The authors studied the effects of tax policy and the financial characteristics on charitable giving. An affluent sample of Americans filing forms 706 was examined. Johnson and Rosenfeld (1991) found a positive relationship between charitable contributions and net worth. In another study Drollinger (1992) broke up the net worth variable into assets and debts. In a regression analysis on a representative sample of the U.S., the author found a negative relationship between debts and a positive relationship between assets and charitable contributions.

The Independent Sector (1988) survey results indicated that those persons who were not worried about having enough money in the future gave fifty percent more than the average contribution of those respondents

that worried about money in the future. The Permanent Income Hypothesis is a useful tool when assessing the discrepancy between future expectations of income and charitable donations. According to the Permanent Income Hypothesis people do not base their wealth upon current income and consumption but rather total resources and consumption over a lifetime (Friedman, 1957). Therefore it can be concluded that future expectations of income and savings would affect the propensity of an individual to donate money to charity.

Attitudinal Variables

Throughout America's history the underlying ethic of taking care of one's family's needs before others has remained strong (Bremner, 1988). Piliavin and Charng (1990) have also stated that traditionally charitable acts were limited to ones kin. Therefore attitudes toward giving to one's descendants may be a significant variable with regard to charitable giving to other causes during one's lifetime. It is possible that an inheritance stored up for descendent may have a substitution effect on the amount given to charities during one's lifetime. Or it may be a complementary component with regard to charitable giving overall.

Hypotheses

With regard to the previous literature review it is evident that several lifecycle variables have been found to be significant and/or correlated to charitable donations. Therefore the primary hypotheses of this research are that

H1: Age of the household head, being married, the education level of the household head and professional occupation status of the household head will be positively related to the amount of money donated to charity and the likelihood of being a donor.

H2: The number of children present in the home under 18 will be negatively related to the amount of money donated to charity but positively related to the likelihood of being a donor.

Due to the limited amount of research on the race and financial characteristics of charitable donors, a further investigation of these variables appears to be meaningful.

H3: White household heads, will be more apt to donate larger amounts of money to charity than non-white persons and more likely to be a donor.

H4: Home ownership, net worth, income, dollar amount in retirement plans, and savings will be positively related to the amount of money donated to charity and the likelihood of being a donor.

In reference to the previous literature on giving to one's kin versus giving to charitable causes, it is conceivable that a person may be very charitably minded, however, they are limited in their ability to give during their lifetime because they anticipate leaving a large estate to their heir's. Therefore the final hypotheses of this research project are;

H5: The importance that the household bestows to leaving an inheritance to their heirs will be negatively related to the amount of money donated to charity but positively related to the likelihood of being a donor.

H6: The expectation of the household leaving a sizeable estate to their heirs will be negatively related to the amount of money donated to charity but positively related to the likelihood of being a donor.

Methods and Procedures

The data are from the 1989 Survey of Consumer Finances. The Survey Research Center at the University of Michigan collected the data between August 1989 and March 1990 through personal interviews with the householders. Households were randomly selected via multistage probability sampling throughout all regions of the continental U.S.. The data included detailed variables regarding the financial, demographic, attitudinal and health variables of American householders. The sample size of the present study was 3,127 households. Errors due to nonresponse were adjusted through a multiple imputation method and weighting procedures. In the sample those households who gave to charity were 1,487 or approximately 48 percent of the sample and the remaining 1,640 households did not give to charity.

Operationalized Model

The dependent variable in the tobit analysis was the total dollar amount given to charity in 1988 by the household. Charitable contributions were treated as a continuous variable ranging from zero to one million dollars. A tobit analysis was employed to explain the variation in the amount of money given to charity, which included zero values. The tobit analysis employs a left censor which allows the researcher to examine zero

values along with positive values without skewing the results to the left.

The independent variables used in the tobit equation were largely derived from the lifecycle theory on consumption and savings (Thurow, 1969; Bryant, 1990). The independent variables with regard to the literature on the lifecycle theory were age of the household head, the level of education of the householder, occupational status (professional, skilled and unskilled laborers), number of children in the household under 18, and marital status (married, not married).

Race (white, non white) of the household head was included because so little research has been conducted on this variable and money donations to charity. Furthermore, a tremendous gap in the literature on the financial portfolio of charitable donors and non-donors is apparent. Although financial characteristics of the household are not made explicit in Thurow's (1969) paper on "The Optimum Lifetime Distribution of Expenditures", they are implicit in the very nature of considering the present and future assets in which a household budgets its consumption over a lifetime. The financial independent variables for the tobit equation were home ownership, net worth of the household, total dollar amount in retirement plans of the household, household income, and the household's total dollar amount in savings.

Attitudinal variables that were considered to be important in this research project were whether or not the householder thought leaving an inheritance was important and the householder's expectation of leaving a sizeable estate to their heirs. These variables were included to detect a possible substitution or complement effect with regard to leaving money to their heirs in the future and charitable donations in the present.

For the second analysis a logistic regression was used. A logistic analysis allows the researcher to examine the characteristics of those households who gave versus those households that did not give to charity. The same independent variables that were used in the tobit model were used in the logistic analysis. The dependent variable for the logistic model was whether or not the household made any contribution to charity in 1988. Charitable giving was treated as a dichotomous variable with a zero response for no or any positive value as yes.

Results

Statistics on frequencies and means were conducted on the independent and dependent variables in order to detect any misimputations and extreme outliers. Moreover the sample of 3,127 households was weighted so that is would reflect a representative U.S. sample.

Several significant variables were found in the tobit analysis which was employed to account for the amount of money donated to charity. Age of the household head, being married, and education were all significant and positively related to the dollar amount of money given to charity. Professional occupational status and the number of children present in the home were not significant (See Table 1.).

Being white, owning a home, total 1988 income, and total net worth were all found to be significant and positively related to the amount of money donated to charity. The attitudinal variables of the importance of leaving an inheritance to one's heirs was significant and negatively related to giving to charity. The variable of the expectation of leaving a large estate to one's heirs was also significant but positively related to giving to charity (See Table 1.).

Results from the logistic regression analysis revealed several significant variables that account for the likelihood of a household donating to charity. The lifecycle variables that were significant and positively related to the likelihood of giving to charity were; age, being married, and education level. Professional occupation and number of children in the home were not found to be significant. Overall the concordant measure of the logit analysis was 81.3% (see Table 2.).

Table 1.
Tobit Analysis on Money Donations to Charity

Variable	Estimate	Pr>Chi
Intercept	-18907.953	***0.0001
Age	84.094	***0.0001
Marital	1811.927	***0.0001
Children	413.709	0.1777
Own Home	827.945	**0.0111
Occupation	-85.102	0.8174
Race	1003.622	***0.0076
Education	574.702	***0.0001
Inherit	-571.239	*0.0550
Estate	1307.072	***0.0001
Retirement	0.006	*0.0936
Savings	-0.002	0.5768
Income	0.001	**0.0463
Networth	0.002	***0.0001
Scale	5668.746	

N= 3127
*** significant at 0.01
** significant at 0.05
* significant at 0.10

Several demographic and financial variables were also found to be significant in the logit equation. Race where white was the referent, home ownership, the dollar amount of money in retirement plans, total 1988 savings, total 1988 income, and total net worth were all found to be significant and positively related to the likelihood of giving to charity. Furthermore, the attitudinal variable of leaving a sizeable estate to ones heirs was found to be significant and positively related to the likelihood of donating money to charity. The importance of leaving an inheritance to one's heirs was not found to be significant (see Table 2.).

Table 2.
Logistic Regression Analysis on the Likelihood of Households Donating to Charity.

Variable	Estimate	Pr>Chi
Intercept	-5.8975	***0.0001
Age	0.0284	***0.0001
Marital	0.5200	***0.0001
Children	0.0937	0.3575
Own Home	0.1899	*0.0820
Occupation	-0.0856	0.4780
Race	0.2734	**0.0291
Education	0.1677	***0.0001
Inherit	-0.1088	0.2758
Estate	0.2926	***0.0044
Retirement	9.1600	**0.0378
Savings	8.8400	*0.0811
Income	6.3100	***0.0022
Networth	2.4400	***0.0001

Convergence 81.3%
N= 3127
*** significant at 0.01
** significant at 0.05
* significant at 0.10

Hypotheses Results

Several of the independent variables were supported in this study via tobit and logit analyses. The results of this study support the findings of several previous studies on charitable donations. Most of the lifecycle variables were found to be significant and in the predicted direction. It is evident from this paper and earlier papers that lifecycle variables are good estimators of household donations to charitable organizations and the overall likelihood of giving to charity. Interestingly, race was found to be significant with regard to the dollar amount given to charity and the likelihood of being a donor. Further research that breaks down the race variable would be valuable and necessary to see if their are differences between all races rather than just a white non-white grouping.

A further examination of financial variables has proven to be useful in estimating household charitable donations as well. Most notably net worth, home ownership, savings and retirement plans need to be taken into consideration when conducting future research on charitable giving. These variables give the researcher information about future financial stability of the household as well as present financial well-being.

The present research has made some interesting discoveries with regard to intergenerational income transfers and current charitable donations. The importance of leaving an inheritance was negatively correlated to donating to charity which suggests a substitution effect between current donations to charity and leaving an inheritance to one's heirs. Interestingly the dollar amount and likelihood of giving to charity were positively correlated to the expectation of leaving a sizeable estate. Persons with a large estate are perhaps some of the best candidates for charitable giving because of favorable tax laws. Leaving a large estate would suggest a need to avoid estate taxes and it would be likely that these households would donate to charity to avoid any unnecessary estate taxes.

Because of the nature of secondary data, this research has been limited to descriptive questions regarding characteristics of the households that gift and do not gift to charity. More primary research on donor characteristics would be of benefit. Due to the type of analyses used categorical variables were not considered.

Implications

Findings from this research may prove to be especially useful to fundraisers, development offices, and non-profit organizations. The most fundamental discovery is that income alone is not necessarily the best measure of a person's willingness nor ability to donate to a charitable cause. Other factors such as future income, net worth, race, and attitudes toward intergenerational transfers are also important. Non-profits should strive to incorporate estate planning techniques for potential donors. Charitable remainder trusts are growing in popularity because of the dual benefits they provide the donor as well as the charitable organization. Fundraising techniques should be reevaluated when considering the profile of potential donors and the amount that could be optimally donated. Non-profits face unique problems in an age when charitable donations are deemed socially desirable yet financially formidable. Presently we are in a new phase of American philanthropy where worthiness

of recipients or cause have almost become secondary to the issue of financing the social responsibility.

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Endnotes

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Transaction Costs, Value Structures, and the Economic Organization of Marital Incomes

Although most couples pool their incomes into a common pot, others do not. The choice between "collectivized" and "privatized" financial organization depends, in part, on which is more efficient which minimizes transaction costs in organizing marital exchanges. Insights from the "new institutional economics" suggest that segregated incomes are associated with lower expectations for marital continuity. Social psychological theory suggests value orientations influence income-pooling behaviors. Data from the National Longitudinal Study of the Class of 1972 support the notion that both economic and social psychological variables explain the economic organization of marital incomes.

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Introduction

A tension exists in American families between individualism and commitment to the group (Bumpass, 1990). The financial arrangements of American couples offer one example of the competing pulls between the individual and the collective (Treas, 1993). Both the privatized or "separate purses" and the collectivized or "common pot" modes occur among U.S. couples, however a recent study found just one-fifth of the married couples surveyed had separate bank accounts (Dortch, 1994). Public opinion expects (Blumstein & Schwartz, 1983) and economic theory assumes (Becker, 1973) that families pool their economic resources. Treas argues that "Privatized versus collectivized economic resources go to the heart of the conjugal family's identity--as a corporate unit or as a collection of individuals" (p. 723).

The question about the organization of family economic resources is fundamentally a sociological question of social organization (Tönnies, 1957; Durkheim, 1933). However, similar questions have been raised by the "new institutional economics" regarding a firm's "efficient boundaries" (Coase, 1937; Dietrich, 1994). Economists argue that a particular organizational structure is favored if it incurs lower transaction costs--the costs of organizing and carrying out exchanges. Sociologists have suggested that transaction cost economics offers insights into family organization as well (Treas, 1993).

This study builds upon the conceptual and methodological approach developed by Treas to study the economic organization of the family from a transaction cost perspective. It expands the framework to incorporate value structures. The paper explores the conditions under which collectivized versus privatized organization of marriages exist. The choice of one over another is apt to hinge, in part, on their relative transaction costs and, in part, on the influence of values (e.g. self-interest, altruism) and sense of self (e.g. self-esteem). It is hypothesized that couples will establish an organizational form that facilitates efficient exchanges and is consistent with personal values.

Transaction Costs and Income Pooling

Despite the unique nature of transaction costs in the family, the factors that determine organizational economics in families are much like those that lead to market or non-market solutions in firms. According to Williamson (1975, 1985), non-market solutions have an advantage in reducing transaction costs under three conditions: (1) when exchanges are complex, frequent, and on-going (i.e. where there is continuity); (2) when the value of goods and services are closely tied to those exchanging them (i.e. where there are sunk costs); and (3) when high costs are involved in monitoring quantity and quality of exchanged goods and services. In general, families are characterized by these conditions. This analysis will test two of these conditions: expected continuity and sunk costs.

Continuity discourages self-serving behaviors and fosters trust and collectivized organization. In contrast, privatized exchange is based on time-delimited contracts and protection of self-interest. Measures that capture previous marital disruption experienced by either spouse will be used as indicators of expected continuity. The probability of divorce is greater among individuals who have experienced previous marital disruption (Bumpass, 1990). People who think their marriage is

likely to continue have less incentive to hold funds back in separate accounts.

Sunk costs create incentives for people to remain in relationships and call for a less market-oriented organization. Many investments in marriage are made early in a relationship, and such costs are only recovered over time. These investments may include expectations as well as time and financial commitments. Expected and actual number of children, marital duration, and homeownership are used as indicators of sunk costs. Couples who have made big investments in their marriage are more likely to find income pooling advantageous.

Value Structures and Other Considerations

Transaction costs are not the only plausible explanations for collectivized versus privatized forms of organization. Individuals choose separate or pooled incomes not only to minimize transaction costs, but also to express personal values and one's sense of self. Attitudinal scales measuring altruism (Cronbach's a=.8667), self-interest (Cronbach's a=.8705), and self-esteem (Cronbach's a=.7918) are used to measure respondents' value structures. Social psychological theory would suggest that the relationship between values and income-pooling behaviors will vary by sex (Rosenberg, 1979).

Other variables are also expected to influence organization of finances or to give rise to possible spurious relationships. Treas (1993) argues that two conflicting arguments point to income as an influence. High income may facilitate separate accounts since it affords the luxury to forego economies that result from sharing. Or, one may argue that high income facilitates pooling because there is less need to budget (Pahl, 1980). Previous research has shown racial differences in patterns of asset ownership (Treas, 1993). Also, race is associated with other predictor variables (e.g. income). Log of earned income of each spouse and a dummy variable measuring race of respondent are included in the analysis.

Data and Variables

The analysis uses data from the National Longitudinal Study of the High School Class of 1972 (NLS'72). The NLS'72 is a national probability sample of over 22,000 persons who were high school seniors in 1972. The survey has followed the lives of its respondents as they have entered the job market and formed families. The fifth follow-up survey (1986), which provides the data for this study, was administered to an unequal probability subsample of 14,489 of the original respondents (see Spencer, Sebring, & Campbell, 1987).

The original sample was conditioned on respondents having attained the senior year of high school. Results of this analysis, therefore, pertain only to that subset of the population who reached their senior year in this grade cohort, and the conclusions cannot be generalized to those populations that failed to reach their senior year of high school.

The data from the 1986 follow-up survey have several strengths. Although reported by one spouse only, the data contain information on family income, marital history, and familial income pooling. Respondents were specifically asked to select a statement that most closely matched the financial arrangements they had with persons in their household. Income poolers selected the following statement: "People combine their incomes and this money is used to pay most household expenses." Most studies of income pooling between husbands and wives have not had the benefit of national probability samples (Blumstein & Schwartz, 1983; Hertz, 1986; Smith & Reid, 1986). A recent analysis by Treas (1993) utilized the national Survey of Income and Program Participation (SIPP), but explored joint versus separate ownership of bank accounts--a somewhat different aspect of the economic organization of marriage.

This analysis includes 4,771 respondents who were married at the time of the survey and reported that both spouses had earned income. Chart 1 defines the variables. Table 1 contains the weighted means and standard deviations of the variables that are included in the logit model of income pooling. As Table 1 shows, income pooling is reported by 79 percent of the respondents.

Results and Discussion

Table 2 presents the results of the dichotomous logit analysis of the determinants of income pooling. Weighted parameter estimates are given for a model that includes interaction terms between the variable sex and the value scale variables. The results offer some support for the transaction cost argument as well as the predicted influence of value structures.

In contrast to the findings of Treas (1993), results do not suggest that previous marital disruption works for or against the collectivized organization of finances: The logit coefficients for the martial history of husbands and wives are not statistically significant. Two variables measuring sunk costs--homeownership and the duration of the marriage--are both statistically significant

Chart 1
Variable Definitions

Variable	Definition
Income pooling	1 if couple pools incomes, zero otherwise
Wife's marital history	1 if in first marriage, zero otherwise
Husband's marital history	1 if in first marriage, zero otherwise
Expected number of children	Total number of children couple expects to have
Homeownership	1 if homeowner, zero otherwise
Number of months married	Total number of months couple married
Number of children with spouse	Total number of biological children respondent has with current spouse
Wife's income	Wife's 1985 earned income
Husband's income	Husband's 1985 earned income
Race of respondent	1 if non-white, zero otherwise
Sex of respondent	1 if female, zero otherwise
Altruism	Likert-type scale[1] composed of six statements: - Finding the right person to marry and having a happy family life - Having strong friendships - Being a leader in the community - Being able to give my children better opportunities than I've had - Living close to my parents and relatives - Working to correct social and economic inequities
Self-interest	Likert-type scale[1] composed of four statements: - Being successful in my line of work - Having lots of money - Being able to find steady work - Having leisure time to enjoy my own interests
Self-esteem	Likert-type scale[2] composed of four statements: - I take a positive attitude toward myself - I feel I am a person of worth, on an equal plan with others - I am able to do things as well as most other people - On the whole, I'm satisfied with myself

[1]Question asked respondents "How important is each of the following to you in life?" (1=not important, 2=somewhat important, 3=very important).

[2]Question asked respondents "How do you feel about each of the following statements?" (1=disagree strongly, 2=disagree, 3=no opinion, 4=agree, 5=agree strongly).

Table 1
Sample Statistics

	Full Sample (n=4771) Mean	Standard Deviation
Income Pooling	0.794	0.405
Continuity		
Wife's marital history	0.826	0.379
Husband's marital history	0.834	0.372
Sunk Costs		
Expected number of children	2.142	1.114
Homeownership	0.791	0.407
Number of months married	94.079	43.603
Number of children with spouse	1.259	1.072
Values		
Altruism	10.743	1.718
Self-interest	6.017	1.281
Self-esteem	17.216	2.118
Other		
Wife's income ($)	14,117	10,160
Husband's income ($)	26,951	14,903
Race of respondent	0.150	0.357
Sex of respondent	0.542	0.499

Table 2
Logit Model of Income Pooling

Variable	Model Coefficients
Constant	-0.111
Wife's marital history	0.120
Husband's marital history	0.183
Expected number of children	-0.024
Homeownership	0.260**
Number of months married	0.003**
Number of children with spouse	-0.054
Log wife's income	0.823**
Log husband's income	-0.425**
Race of respondent	-0.110
Sex of respondent	-1.57
Altruism	0.003
Self-interest	-0.072
Self-esteem	-0.096**
Altruism*Sex	0.086*
Self-interest*Sex	-0.149
Self-esteem*Sex	0.087**
-Log Likelihood	2069.287

*$p<0.10$
**$p<0.05$

and in the hypothesized positive direction. Findings are mixed in response to the argument that pooling is favored by the affluent who need not impose the consequences of spending on the spender (Treas, 1993). The coefficient on wife's income is positive and significant. Interestingly, the opposite is true for husband's income. Men with higher incomes are less likely to pool incomes with their wives.

Perhaps the most intriguing findings explore the influence of values on income pooling and the hypothesized differences between the sexes. To explore the question that the role of values will differ between the sexes, an additive model (not shown) without interaction terms was compared to the model which includes variables measuring the interaction of sex and value orientations. Results provide some support for the notion that men's and women's value orientations have different effects on income-pooling behaviors. The relationship between altruism and self-esteem and income pooling are different for women compared to men.

Summary

Results from this analysis provide some support that American couples do weigh transaction costs in the decision to collectivize or privatize their finances. Pooling incomes was hypothesized to depend on the expected continuity of the marriage and marriage-specific investments which are conceptualized as sunk costs. No evidence was found to support the idea that expected continuity of the marital union will encourage market-like organization. Support was found for the idea that marital investments foster a common pot and discourage separate purses.

Transaction costs are not the only considerations influencing the choice of collectivized versus privatized family finances. Individuals are influenced by their personal values and sense of self-worth, and this relationship appears to vary by sex. These findings raise fundamental questions about the process by which families opt for one form of internal organization over another. Data on the economic organization of both income and assets and on the value structures of both husbands and wives from a broad sample of married couples would allow us to explore further the process of collectivized behaviors.

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On Taking a Values-focused Approach to the Teaching of Consumer Economics

This paper argues for the teaching about values in consumer economics courses. It suggests that when an instructor teaches consumer economics it is likely that such teaching reflects the dominant economic arrangement of the country where the course is taught, that the instructor brings to the analysis his/her own set of intellectual biases (including economic ideology and political attitudes), and that the teaching is from the viewpoint of the consumer interest. Consumer economics instructors are challenged to consider methods by which values may be taught.

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Introduction

Interest in the topic of "values" has grown in recent years. Speeches of President Bill Clinton, even during the days of the 1992 campaign, regularly have emphasized the responsibilities of Americans. Another indicator is the success of William Bennett's The Book of Virtues, which has remained on the bestseller lists for many months.[4] Since the 1994 election, the Republican dominated Congress has raised on a weekly basis challenging questions about society's values on such issues as welfare, food stamps, affirmative action, and government responsibility. Commentators on television talk shows are frequently heard to say that, "Young people lack proper values."

Most would agree that values are becoming increasingly important in today's society. What to do about values, especially when considering the teaching about values, remains a difficult and, as yet, unmet challenge. Most instructors avoid teaching about values because of their fear when someone asks the question, "Whose values?" Yet, if the instructors in today's schools do not teach about values to students, where will students learn to recognize their own values? And, where will students learn to be good citizens?

Consumer economics instructors are not immune from the discussion of values because much of the traditional content in the field directly deals with the underlying economic and social traditions and beliefs of a society as well as the values of individual consumers. To illustrate, consider the following list of examples of the topics typically examined in a consumer economics course: the consumer interest, consumer sovereignty, seller-consumer conflicts, rights and responsibilities, ripoffs and frauds in the economic marketplace, capitalism versus socialism, social and economic goals of society, allocating resources in society, competition, market economy, benefit-cost analysis, world economic problems, international codes of proper corporate behavior, planned buying, pro-environmental consumption, and consumer decision making. These consumer economics topics are ripe with values.

As the most basic underlying force in decisions and actions, values must be acknowledged and understood. Gross, Crandall and Knoll (1980, p. 78) write that, "a value is always important to the person who holds it, it is desirable and satisfying, and it tends to endure." Consumer economics instructors need to teach students about values and help them identify those which influence the ideologies of people in business, government, labor and the consumer movement. In support of teaching consumer economics with an emphasis on responsibilities, Crawford, Lawrence and Prawitz (1995, p. 97) state that, "Consumer educators might stress not only [consumer] rights and responsibilities, but that acceptance implies ethics and morality."

What Values Are Currently Being Taught in Consumer Economics?

When an instructor teaches consumer economics three things are probably true: (1) it is likely that such teaching reflects the dominant economic arrangement of the country where the course is taught, (2) that the instructor brings to the analysis his/her own set of

intellectual biases (including economic ideology and political attitudes), and (3) that the teaching is from the viewpoint of the consumer interest.

Values Reflected in the Economic Arrangement of a Country

The values emphasized in consumer economics are likely to reflect the dominant culture and economic arrangement of the country where the course is taught, such as socialism and capitalism. This occurs because the dominant economic arrangement is the status quo and instructors are expected to communicate such to their students.

When teaching consumer economics, there are a number of status quo normative values that are likely to be promoted by instructors who support the culture and economic arrangement of the country where the course is taught. A list for those teaching consumer economics and promoting the values of U.S. styled capitalism includes: political democracy, economic freedom, economic efficiency, full employment, economic productivity, price stability, economic prosperity, economic security, and economic justice. Teaching consumer economics in countries other than the United States might, of course, change the list somewhat.

Values Based Upon the Intellectual Biases of the Instructor

Consumer economics instructors bring their own set of intellectual biases, sometimes disguised as values or beliefs, to the subject of consumer economics. Depending upon the subject matter, the instructor typically brings his or her own intuitive socio-political perspective to the content of a specific course.[5] This perspective generally includes one's political views as well as his or her economic ideology. "An ideology is a coherent, systematic, and moving statement of basic values and purpose" (Cavanagh, 1990).

Courses in consumer economics are often taught by instructors who subscribe to one of the two broad ideological perspectives that dominate political thinking in the United States: conservatism and liberalism. "Supporters of conservatism believe in limited government, except in national defense, and have faith in encouraging personal achievement. The two cardinal beliefs of conservatives are private-property rights and free enterprise. Conservative embrace self-help, empowerment, free markets, and decentralized individual choice (except for abortion rights)" (Garman, p. 348).

Liberals believe that government can and should play a vital and positive role in the alleviation of society's problems. "Liberalism involves a belief that government should be used to bring about justice and equality of opportunity. The word 'liberal' is translated from Greek as 'a free man' as opposed to a slave. It implies freedom of thought, freedom from conventional beliefs, and the right of others to think differently than oneself" (Garman, p. 349).

In years past the ideals of conservatives and liberals in American politics did not differ much. For decades, both conservatives and liberals generally went along with each other's programs and proposals largely to continue the status quo and to get re-elected. However, the election of 1994 has greatly widened the ideological gap between conservatives and liberals. Some suggest that this is a reflection of the fact that "...Americans no longer share a firm commitment to traditional norms and values" (Larson, p. A7). Himmelfarb (1995) argues that society has lost its sense of moral consensus.

Consumer economics instructors also are likely to subscribe to one of the dominant economic ideological belief systems: neoclassical, managerial, or reformist. Each has its own set of beliefs about the structure of an economy, how companies in the economy behave, and the effects of that behavior on consumers. Neoclassicists are strong believers in the free enterprise system and favor market mechanisms over government intervention. Managerialists emphasize the role of the professional corporate manager who is trusted to make decisions in the interest of workers, shareholders and consumers. Reformists believe the economy is dominated by shared monopolies and willingly use government to achieve fairness in the marketplace (Garman, p. 344-348). Moreover, instructors who teach consumer economics may do so from the perspectives of a major political ideology and of a dominant economic belief system.

Values Based on the Consumer Interest

Though most introductory economics textbooks devote little or no attention to normative economics, i.e., how the world ought to work, this is not true of textbooks in consumer economics. Hausman (1989, pp. 122-123) argues that, "normative concerns are central to economic methodology...and that the normative role of methodology is unavoidable." The is no doubt that both economics and consumer economics offer insight into questions of social and individual values. Consumer economics, in particular, with its focus on the role of the individual in decision making, is predominately concerned with the interests of consumers. Therefore, the values emphasized in consumer economics should be based on the consumer interest.

Normative public policies that should be examined by those teaching consumer economics are those that promote the consumer interest. The "consumer interest is defined as concerned with securing, protecting,

and asserting consumer rights primarily in marketplace transactions in order that consumers receive an acceptable quality of goods and services at fair or low prices" (Garman, p. 18). Thus, consumer interest concerns are primarily about questions of personally obtaining value for money and seeking equity for all consumers.

The "What" and the "How" of Teaching About Values Needs More Attention

A suggested list of values that might be examined when teaching consumer economics classes includes: honesty, trust, loyalty, goodwill, civility, dignity, opportunity, rights, justice, fairness, equity, decency, tradition, stability, individuality, conformity, change, practicality, economy, saving, education, investment, self gratification, social prestige, equality, choice, tolerance personal responsibility, honor, financial success, and financial security. It also can be argued that most of the above named values are some of the fundamental values of civilized society.[6]

The definition of a field of study typically establishes the beginnings of a conceptual framework of the content of that field. No matter which popular definition is used, instruction in consumer economics focuses tightly upon some of the key roles of consumers in society—consuming, utilizing, borrowing, saving, and investing—roles laden with values with a strong bias toward the interest of consumers. The conceptual framework implied in an examination of various consumer roles leads to the content of the field being further developed and refined by instructors, educational institutions, textbook authors, professional associations, and accrediting organizations. This continues to occur in the field of consumer economics, and the idea of values needs more explicit attention.

Neoclassical economics, the dominant school of economic thought, is founded on the idea of "economic man"—individual producers and consumers who behave predictably because they make calculated decisions according to their consciously developed "objective function," which is to maximize profits or utility, respectively. Critics assert that the modernist paradigm of the economic man is lacking, and perhaps fatally flawed, because it lacks a normative perspective. For example, should the focus of consumer economics be utility maximization by consumers or egalitarian motives, communal values, and environmental stewardship? Others suggest that economic analysis needs to focus on institutions and culture, not just individuals. Feminist insights suggest that self-interest is not the only motive people use in making decisions about things like family size and labor market choices (McCloskey, 1983).

To further explore the challenge for instructors interested in a more values-focused approach to teaching consumer economics, a question must be posed, "When teaching consumer economics, what values should be given full consideration as students examine their roles in life as people who can influence public policy decisions?"

As suggested here, the teaching about values can be done without a moral bias. The teaching of moral and ethical decision making requires adoption of some criteria, typically stated in hierarchical manner, that establishes a decision making matrix. Those interested in a values-based approach to consumer economics have a need for a conceptual framework of the subject that: (1) identifies more fully the values inherent in the subject matter of consumer economics, (2) specifies the relevant content of consumer economics where such values may be examined, and (3) provides examples of instructional techniques used to teach about values.

Some classroom methods for teaching about values in consumer economics include: (1) facilitating a student generated list of values, (2) encouraging a student debate about these values, (3) asking students to describe typical consumer situations that reflect each value listed, (4) presenting scenarios to students who are asked to identify the underlying values reflected, and (5) asking students to think up situations that demonstrate different values practiced by consumers and businesses.

Moreover, "the academic field of consumer economics utilizes economics concepts and principles along with normative analysis as it makes value judgments about the formulation and evaluation of public policies from the viewpoint of the consumer interest" (Garman, p. 28). This suggests that proper study in the field of consumer economics can add a greater understanding of values to student understanding. When instructed in this manner, students taking consumer economics courses will know why they are studying the consumer interest, the values practiced in their economic system, the ethical heritage of their society, and how to pursue their consumer interests both individually and collectively for the rest of their lives. Consumer economics instructors are encouraged to further explore identification of the values that should be taught in consumer economics and how to effectively go about teaching the subject using a values-focused approach.

Consumer economics instructors who take a values-focused approach to their subject are those who make an intellectual choice to teach others to try and create a better world. Perhaps those instructors share the

belief that an educated and informed American public that pays attention to issues that genuinely affect the consumer interest will exercise their economic and political voting power. Such thoughtful citizen-consumers have the potential to become the most powerful and effective force ever to promote the common good of all consumers.

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Endnotes

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Protesting Food Price Rises in Retail Markets: Consumer Economic Boycotts in Historical Perspective

This historical overview of consumer economic boycotts in the 20th century finds that from the early 1900s to the 1970s, consumers at the grassroots level repeatedly launched boycotts in response to sharp rises in food prices. Among the noteworthy characteristics of these protest actions are the important roles assumed by housewives, both as leaders and followers, and their focus on commodity classes of food, such as meat or milk, rather than individual products or brands.

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One of the great enigmas of economic behavior is the reluctance of Americans to form organizations for advancing their interests as consumers. For years, observers of consumer behavior (e.g., Chase & Schlink, 1927) have called attention to the problem. As one economist put it more than fifty years ago:

> We organize on the basis of almost every other conceivable interest - political, social, economic, religious. Clubs for this and that exist everywhere. We are very assiduous in organizing on the basis of our interests as producers. Groups of business men organize into trade associations; laborers into unions; lawyers, teachers, doctors into their professional associations.
> (Coles, 1938, p. 33)

Many students of the consumer movement would agree that the Coles statement holds true (or almost true) the same extent today as it did in 1938. As a result the consumer right to be heard and represented through dedicated organizations remains weak, and especially when compared to other actors in the private sector who are represented by powerful organizations such as the U.S. Chamber of Commerce or the National Association of Manufacturers.

In light of this background it is well to ask what role, if any, organized citizen actions at the grassroots level, such as initiating boycotts, have had in advancing the consumer interest. A full answer to this question is beyond the few pages allowed for this summary presentation of findings. The brief answer, however, appears to be a modest role, with few significant direct actions having been launched by grassroots consumer groups in the last few decades. Moreover, when direct actions such as boycotts have been pursued, the responsible groups have often not been the establishment organizations in the consumer movement, such as Consumers Union or the Consumer Federation of America. Instead it has been ad hoc consumer groups, often led by women, that have typically launched consumer economic boycotts. And many have come and gone in what a historian would see as a twinkling of the eye - time periods ranging from a few weeks to a few years.

It should come as no surprise that women in general and housewives in particular have been at the forefront of direct grassroots actions such as boycotts to further the consumer interest. For centuries the traditional division of labor meant that it was housewives who did the shopping and thus they were the ones who most directly felt the impact of adverse changes in price or availability for consumer goods. Especially critical were sharp price rises and acute shortages for food, and particularly for such staples as milk or meat. The result was often women-led protests and revolts. As English historian E. P. Thompson has noted in describing food riots of the 18th century, it was women who were "most involved in face-to-face marketing [and hence] most sensitive to price significancies..." He adds, "it is probable that ... women most frequently precipitated the spontaneous actions" (1971, p. 116). Moreover, while the reasons for such actions are not clear, historian Herbert Gutman (1973) suggests a sensibility, with roots in pre-industrial times, focusing upon the illegitimacy of charging unfair prices for necessities like foodstuffs. And it was due to this perceived illegitimacy that some historians saw the rioters' purpose as meting out justice and punishment (Baxandall et al., 1976).

What often distinguishes consumer economic boycotts from other types is their concern with consumers receiving value for the money they spend in the

marketplace. Thus anything which serves to decrease the value received from such consumer transactions has been a potential source of concern to the ad hoc consumer groups. And business firms believed by the groups to be responsible for the value decrement have often been seen as fair game for attack by consumer economic boycotts.

What are the value threats that typically have concerned the ad hoc groups which have resorted to consumer economic boycotts? To answer this question one has to realize that consumer educators (e.g., Garman, 1993) tend to view the concept of "value" as a dual function of the quality or worth of a commodity purchased in the marketplace, and the price paid by the consumer. Thus consumer advocates are likely to become concerned if for a given product or service, a marked increase in price or decrease in quality should occur, and for no apparent reason or for a reason which does not seem to be justifiable. Moreover, changes in price have typically dominated changes in quality as a boycott inducer, perhaps because price changes are usually clearly signaled, while changes in quality often are not.

Another characteristic of consumer economic boycotts is that they tend to be commodity-oriented rather than oriented to a particular product brand. The reasons for deemphasizing individual product brands are not hard to discern. If a particular producer, say Dominos, should blatantly move in an untoward consumer direction with regard to the price or quality of its packaged sugar, individual consumers would presumably note the untoward change with many switching to another brand. Moreover, if many consumers acted in this manner, they would be sending a message to Dominos which would be equivalent to an organized marketplace boycott of the firm; and it seems likely that the message (a dramatic drop in sales) would have an effect similar to the one communicated by an organized marketplace boycott of the branded product.

The point of all this is that consumers appear not to gain very much by resorting to an organized consumer economic boycott of a branded product, especially if a competitive brand of equal or near-equal attractiveness is available to them; for the adverse changes in quality or price which often prompt a boycott are likely to lead consumers to do what comes naturally on their own - namely select another brand with higher quality and/or lower prices. By contrast, most consumer economic boycotts have focused on food commodity groups, such as meat, milk and sugar.

To sum up the foregoing, consumer economic boycotts tend to be undertaken by ad hoc consumer groups rather than established consumer organizations. Their actions often result from an abrupt and seemingly unjustified drop in the economic value secured from commonly made consumer purchase decisions. The precipitating change may be a decrease in product or service quality but more typically it consists of an increase in the price of a consumer product or service. Moreover, most consumer economic boycotts focus not on a single brand of product or service but on a whole class of commodities, and these items tend to be food staples.

Furthermore, boycott leaders have tended to blame various middle-men for the problems precipitating their actions, with wholesalers or distributors, rather than farmers or retailers, being held responsible for rapid rises in food prices. And the history of consumer economic boycotts finds that they are often accompanied by decreases both in sales volume and retail prices for the boycotted products, but these decreases are rarely sustained far beyond the boycott period.

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Consumerism In Korea

In the 1990s, consumerism in Korea is being accepted by the public because of increased levels of affluence and education, and increased complexity of consumer choice. A survey of the development of Korean consumerism, which illustrates the characteristics of the Korean consumer movement, is presented. The review of the past history also helps to identify challenges and deficiencies of the current consumer movement. Implications are drawn for consumer leaders.

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Inevitably, consumerism has again arisen in view of new conditions in the Korean economy that warrant a fresh examination of the economic power of sellers in relation to buyers. In the past, the Korean market has been a seller's market with few incentives for sellers (either private or public) to look out for consumer interests. In part, consumer interests were suppressed under the goal of long-term economic development. For example, to increase the international competitiveness, sellers overcharged domestic consumers to compensate for the lower prices for exports. This characteristic of the market neglected consumers' interests and can be well described by Thorelli's terminology, "the forgotten consumers." The consumer is "forgotten" in that citizens do not generally think of themselves as "consumers", and policy makers pay less attention to consumer problems or rights (Thorelli, 1988, 1981).

However, this market condition has began to change. Even though "consumerism" is a relatively new idea for most Koreans, the country's consumer movement is becoming more vocal (Clifford, 1988). Included among the conditions contributing to the rise of consumerism in Korea are the following. First, incomes and education levels of Koreans have advanced continuously. This encourages citizens to become more concerned with the quality of their lives, and consequently, their aspiration levels are heightened with growing awareness of consumer problems (Thorelli, 1981; Straver, 1977; Kotler, 1972; Weiss, 1967).

Second, technology has become increasingly complex and have made consumer decision making more difficult. This tends to generate consumer problems (Herrmann, 1980; Aaker & Day, 1978). Consumers' frustration has been accelerated by sophisticated marketing practices such as product differentiation, price discrimination, high pressure selling, deceitful promotion and advertising, and other marketing tactics (Kotler, 1972).

Third, inflation has significantly impacted consumers' purchase behavior. Consumers have been frustrated by the pressure of rising prices in recent years, as this reduces real income for a significant proportion of the population. Inflation is one predictor of more intense consumer activity (Straver, 1977; Hendon, 1975; Buskirk & Rothe, 1970; Herrmann, 1970).

Finally, with the development of new trade agreements via the Uruguay Round of GATT, Koreans expect a dramatic change in market structure. The traditional seller's market protected by the government will now face the challenge of competition for virtually the first time. This will expose consumers to a wider range of choices.

The purpose of this paper is to identify the challenges and problems of the consumer movement in Korea. Implications for consumer leaders will be drawn. A brief survey of the development of Korean consumerism illustrates the national characteristics of the consumer movement, and helps identify the unique challenges and problems of Korean consumerism. This paper builds a knowledge base of consumerism in a non-western culture. The knowledge about consumerism in other cultures and nations is very limited, and a lack of research concerning consumers in the global marketplace has been repeatedly acknowledged (Kaynak & Wikstrom, 1985; Thorelli, 1981).

A History of Korean Consumerism

Mayer (1989) gave several reasons why an analysis of today's consumer movement must begin with an examination of the movement's historical roots. Two reasons can be directly applied to an analysis of Korean

consumerism. First, the features and outcomes of earlier eras of consumerism continue to affect consumers today. Second, many of the same dynamics that characterize early periods of the consumer activism are also evident in more recent periods.

There were two periods of consumer activism earlier in this century, the 1960s and 1970s (Song & Kim, 1987). These periods, as well as the present period of activism can be understood as expressions of humanitarianism and nationalism lead mainly by female leaders of women's associations. In each era, the specific problems grew out of changes in the marketplace, trade agreements and international relations, and consumer autonomy. Furthermore, each consumer movement has had to overcome the same problems-attracting public attention, generating organizational resources, and stimulating governmental action.

The First Era: 1965-1974

The first wave of consumerism in Korea began as a nationalistic movement in 1965 (Song & Kim, 1987). In this era, Koreans experienced rapid industrialization directed by the government under the "First 5-Year Economy Development Plan." However, the industrialization in this era was confined to basic industries such as railroads, highways, and steel. Also, the economic development under the government's guidance resulted in a significant deviation from a competitive market since the government subsidized basic industries and supported only a few major firms.

After World War II, Korea ceased political and economic relations with Japan, but in 1965 Japan and Korea reinstituted political and economic relations. Many Koreans resisted contacts with Japan and rejected engaging in trade with Japan. Korean consumers organized a citizen's alliance to boycott Japanese products (Rhee, 1988). Thus, from this beginning Korean consumerism had a strong nationalist slant.

Along with the boycott of Japanese products, various consumer organizations emerged in this era. For example, the "Korean Women's Association" opened an office handling consumer complaints and published its first issue of "Consumer Protection" in 1967. In 1968, the Korean YMCA established the "Consumer Protection Committee" within the Department of Social Problems, and the "Korean Association of Consumer Protection" was registered with the government, only to be dissolved in 1969.

Another important characteristic of the consumer movement in this era was that the movement was directed by the leaders of women's associations, such as the "Korean Federation of Housewives Club," "The National Housewives Association," and the "Korean National Council of Women." As a result, consumerism was often confused or even overshadowed by the "Feminism Movement."

In 1969, Ester Peterson and Colston E. Warne visited Korea to support the importance of organizing a "consumers union." Stimulation by these consumer leaders led to the formation of the "Consumers Union of Korea" in 1970. The "Consumers Union of Korea" was a landmark in the history of Korean consumerism since it separated the consumer movement from the "Feminism Movement." However, the "Consumers Union of Korea," along with other consumer activist organizations, suffered a lack of human and financial resources and failed to survive.

The Second Era: 1975-1984

By the completion of the "Second and Third 5-Year Economy Development Plan," Korea's economy and exports were developed, and the effects of industrialization spread to consumers' everyday life. Thus, citizens started to enjoy improved material well-being, and with increased consumption, consumer problems started to increase.

To organize the consumer movement more effectively, in 1976 the leaders of five women's associations organized a conference and the "National Council of Consumer Protection." The Council integrated existing consumer interest organizations into a single entity. After the registration with the government, the "National Council of Consumer Protection" activated its movement by focusing on legislation related to basic consumer rights. In 1979 the Council began publishing a monthly magazine, "Consumer" which reported market information and the news from associated member organizations. The content of the magazine was later broadened to product testing and comparison pricing, thus playing a role of marketplace watchdog. "Consumer" enhanced consumer interests by providing market information as well as raising consumer consciousness

While the National Council of Consumer Protection was establishing itself, in 1979 the government established the "Administration of Consumer Affairs" under the Division of Consumer Pricing Policy in the Economic Planning Board. The "Administration of Consumer Affairs" took care of consumer protection issues and handled consumer complaints.

By the late 1970s, the importance of consumer protection was recognized by the Korean public. As a result, the "Consumer Protection Act" was passed in 1979 and implemented in 1980. Also in 1980 the "Consumer Movement Act" was passed, and a "Week of Consumer" was observed to encourage consumerism.

The "Consumer Protection Act" was the beginning of governmental involvement in protecting consumer interests. This is the most notable achievement of this period of consumer activism.

Also, in this period, the leaders of the women's associations played key roles in the consumer movement, and the people who helped organize the consumer movement became more active. A lack of human and financial resources still remained, along with the continuing problem of passive consumer participation. It was a particularly difficult era for a social movement since participation in any kind of social movement was discouraged by the government through suppression of free speech and the banning of formal gathering for political reasons.

The Third Era: 1985-1994

In this era consumers became more aware of health and safety issues as their economic well-being improved. As a result, the consumer movement focused on food and drug safety problems. The government recognized the importance of regulating hazardous products.

Consumer advocates started to become more actively involved in the international consumer movement in the 1980s. The "Citizen's Alliance for Consumer Protection of Korea" became an associate member of IOCU (International Organization of Consumers Unions) in 1985. The alliance maintains active involvement in IOCU by addressing international consumer issues such as "Abolishing Hazardous Drugs and Pesticides," "Breast Feeding" and "Sustainable Consumption."

Supported by growing interests in consumer well-being, the "Consumer Protection Act" was amended in 1986. The major features of this amendment included the seven basic rights of consumers, an establishment of the "Consumer Protection Board," and expansion of the "National Council of Consumer Protection." The seven rights of consumers include: (1) the right of protection of health, safety, and economic interests, (2) the right to be informed, (3) the right to choose, (4) the right to be heard, (5) the right to redress, (6) the right to be educated, and (7) the right to organize consumer interest groups.

Empowered by the government, the "Consumer Protection Board" was established to serve consumer interests in the following ways:
(1) redressing consumer complaints and losses, (2) encouraging consumer education, (3) disseminating consumer information including product and service testing, (4) researching how to enhance consumer interests, and (5) making consumer policy recommendations.

College education and research also contributed to the growth of consumerism in Korea. Seoul National University started to educate doctoral students majoring in consumer science as well as teach consumer science at both the undergraduate and graduate levels. Consumer education was also brought into middle and high school education through curriculum changes. In academia, the "Korean Society of Consumer Studies" was born in 1990. The Society focused on developing a knowledge base for the consumer movement since a research base is critical for Korean consumer policy formulation. Blind transfer of consumer policy technology from the other developed countries to Korea may not be what Korean consumers really need (Kaynak & Wikstrom, 1985).

Current Challenges

In the 1990s, consumerism in Korea is being accepted by the public because of the accumulated history of the consumer movement, increased levels of affluence and education, and increased complexity of consumer choices resulting from ever changing technology and broader choices through free trade agreements. Also, the political climate has changed, allowing free speech and encouraging social gathering, including consumer boycotts or other organized acts. However, for the consumer movement to be a successful social movement, challenges and deficiencies of the current consumer movement need to be identified. Ultimately, the future of consumer movement depends on how well it adapts and responds to change.

Free Trade Trends

The Korean market has typically been a heaven for domestic sellers due to strict trade protection. This has imposed high costs on consumers (Dardis, 1988). Costs imposed by trade protection include higher prices, reduced consumer choice and reduced incentives for the domestic industry to meet consumer's needs and wants. With the recent trend towards free trade, specifically the Uruguay Round of GATT, the Korean seller's market is being threatened. Concerns and resistance by domestic sellers have emerged and have grown into public sentiment. It is not surprising to observe Korean's favoritism toward trade protection considering the dominance of producer/worker's interests as well as the nationalistic slant observed in the first era of consumerism. This dominance of producer/worker's interests over consumer interests has resulted from the nation's priority placed on economic growth/ development.

What is not considered in understanding the consequences of this trend toward free trade are the

consumers' gains and losses which are based on the interests of consumers rather than the interests of producer/workers. Trade enables consumers to purchase goods and services from an international rather than national marketplace and to take advantages of production possibilities in different countries, thereby broadening the choice alternative for the consumers. Trade also creates an environment in which producers are more responsive to consumer needs and wants.

In addition to these benefits, trade will also create new problems for consumers. For example, consumers may be confused by the breath of their choice alternatives which are already quite complicated due to rapidly changing technology. Consumer information becomes more critical in helping consumers make choices. Safety of imported products has became an important consumer problem. In 1990, the problem of a lack of proper testing for imported food products became an issue, and in 1993 the problem of pesticides in farm products became another highly publicized safety issue. Certainly, safety and health issues are important and continue to create public sentiment. Therefore, it is very important to properly address this issue by product standards, testing or other regulation.

Another issue which has been frequently raised by the Korean citizens is over-consumption stimulated by newly imported products. The argument is that newly imported novel products encourage overspending and discourages savings. This will endanger the financial status of individual consumers and the nation. However, these arguments ignore the likelihood that consumers are usually reasonable in their choice behavior, although they sometimes make impulse decisions. This concern applies primarily the periods shortly after the introduction of new products.

Responding to the changing environment of free trade, consumerists need to articulate the potential problems and to propose remedies to protect consumer interests. These remedies may include governmental action, including safety standards, setting proper product testing procedures for imported products, and disseminating useful information to consumers.

Reunification.

The recent change in the political climate has led Koreans to anticipate reunification with North Korea. The death of Il Sung Kim left many unanswered questions about reunification. In addition, some Koreans raise serious concerns regarding possible side effects after the reunification and question whether the timing is proper. However, in spite of all these doubts and concerns, the reunification of Korea remains as a goal for many Koreans.

Although reunification is not being addressed in the present time, reunification could lead to a number of consumer problems. Specifically, given the underdeveloped consumer markets in North Korea, consumers in North Korea will likely experience a severe shock with reunification. However, at the same time, a huge market will emerge for South Korea. In preparing for reunification, consumer education is important to reduce the victimization of consumers.

Presently, trade with North Korea has already began and getting more activated. The main goal for the current trade is a development of peaceful brothership rather than an economic interest. The agenda for trade with North Korea, however, needs to be carefully developed to enhance both South and North Korean consumers' interests.

Decentralization/Localization

If the arms of the consumer movement are its national organizations, its legs are the local groups, which give it a solid foundation in the everyday concerns of ordinary consumers (Mayer, 1989). Despite the acknowledged significance of the role of local consumer organizations, Korean consumer organizations are located in Seoul with little activity at the local level. However, the Korean government is planning for the decentralization of administration to encourage more balanced local development. Currently one quarter of the Korean population lives in the greater-Seoul area where the nation's political, economic, and cultural activities are concentrated. Efforts to decentralized government will place more importance on localization. As a result, consumer organizations will need to increase efforts to organize local consumer groups and to solve the everyday problems of local consumers. This can be actually an opportunity for growth rather than a threat to the consumer movement.

Issues for The Future

For Korean consumer movement to grow successfully there are several issues to be addressed. These issues include an establishment of the identity of Korean consumerism among various ideologies, a collection of organizational resources and an effective strategy development.

Identity Establishment

The first problem of Korean consumerism centers on how it emerged into identity. The characteristics of Korean consumerism have been nationalistic and feministic. The nationalistic slant started from the beginning of the consumer movement

and continues to the present. Consumer movements in other countries, such as the U.S., were often accompanied by other social movements. Korean consumer advocates have stated that the reasons for boycotting foreign products were not purely based on efforts to enhance consumers' interests. Worse yet, they are not sure what is the best for consumers (Clifford, 1988). Specifically, heading toward a free-trade era, Korean consumerists need to develop their own agenda of consumerism separately from nationalism.

Second, the feminism movement overshadowed the consumer movement. Although the consumer movement has been lead by the female leaders of women's organizations, the ideologies of consumerism and feminism are very different. The consumer organization needs to broaden its audience to the general public. In this way consumer organizations may also accomplish the goal of generating more human and financial resources as well as increased public awareness.

In addition to its ties to nationalism and feminism, the consumer movement became heavily involved with environmentalism in 1990s. It is not surprising to see this involvement since many social movements are connected and grow together. Also, there are many consumer safety issues involved with environmental issues such as pollution. There are also concerns as to whether that sustainable consumption is threatened by the destruction and utilization of natural resources. Cooperation and involvement with environmentalism are not problems. The concern is that consumerism can again be overshadowed by another ideology. This repeats the history. While consumer advocates may need to cooperate with environmentalists to support each other, they should be careful to preserve their own identity.

Collection of Resources

A lack of organizational resources has been an enduring problem of consumer organizations. Like all social movement organizations, consumer organizations must deal with a "free rider" problem (Bloom & Greyser, 1981). A way should be found to get the support and funding from people who would reap the benefits such an organization might generate. As a way of managing free riders, Bloom & Greyser (1981) proposed to "sell" consumerism in more direct and personal terms. Marketing the ideology of consumerism is often general and impersonal, but people tend to react better to more personal matters. By explaining consumerism in direct and personal terms, interest and enthusiasm can be generated in larger numbers of people. This can be extended to financial support, including donation of small sums or paying nominal dues.

Strategies to enhance organizational resources can be facilitated by dividing organizational resources into human and financial resources. Human resources include leaders and voluntary participants of consumer organization. As discussed earlier, by differentiating itself from feminism, consumerism may not only establish its own identity but also attract leaders who haven't previously participated because of misconeeptions.

An aspect of broadening the audience can be student organizations on college campuses. Student organizations in Korea have filled a unique role in social movements. They were the vanguard who fought for the ideology of "democracy". After the election of the democratic government in Korea, student organizations lost their primary ideological goal. Perhaps consumerism can become their ideology.

In terms of financial resources, consumer organizations currently are faced with more funding opportunities since consumerism is better received by the government and the public than in previous periods. Consumer organizations are potentially significant in the political arena because they are one of only a handful of interest groups in Korea, which implies an excellent opportunity for funding (Clifford, 1988).

Strategy Development

To facilitate change, consumer organizations need to identify clear goals and set priorities and proper courses of action. In any organized group, the setting of goals and priorities is a key function of leadership. Under the mission of enhancing consumer interests, leaders need to set specific goals and develop plans of action based on the analysis of the environment. Leadership with a vision is needed more than ever to enhance the growth of consumerism in Korea. Of equal importance, leaders need to translate consumerism into simple terms to catch the public's attention (Herrmann, 1970). Strategic thinking cannot be overemphasized, by considering the changing environment. Developing well thought out plans and tactics will make consumer organizations be able to improve their efficiencies and effectiveness.

Toward A Successful Social Movement

Representation of consumer interests is difficult since consumers are unlikely to be intensely concerned about a given issue. They are likely to be believe that their personal involvement is unnecessary because of the existence of many other potential contributors (Mayer, 1989).

Smelser (1963) proposed combining the following conditions to produce a successful social movement. These conditions include structural

conduciveness, structural strain, growth of a generalized belief, precipitating factors, mobilization for action, and social control. Structural conduciveness refers to basic developments in society that eventually create potent contradictions. This has emerged in Korea through increased education and income, more complex decision making, and more choice alternatives.

While structural conduciveness produces major structural strains in a society, other factors also emerge. These contributing factors, already found in Korea, include economic, ecological, and market system discontentment. Economic discontent was created by steady inflation and decreased speed of economic growth. Ecological discontent arose out of new awareness of pollution and other environmental issues. Market system discontent centered on hazardous products and imported products. All this discontentment has contributed to structural strains in society.

What is lacking is "a generalized belief about both the main causes of the social malaise and the potent effectiveness of collective social action" (Kotler, 1972). There are certain factors which contribute to the growth of a generalized belief. These factors include the writings of social critics interpreting the consumer problem, actionable solutions (lobbying to the congress as an interest group), and continued efforts to call public attention to the consumers' interests by the consumer organizations.

Mass discontent and public support for social change do not necessarily produce an active social movement. To maintain vitality, a social movement must be lead by well-managed organizations that can mobilize resources and supports (Bloom & Greyser, 1981). For mobilization for action, the mass media always helps to attract public attention by front-page coverage and editorial support for the activities of consumer advocates. The mass media often finds the issues of safety newsworthy. The media's attention is often amplified through word-of-mouth.

The progress and course of an incipient social movement depends on the reception it receives by the industrial-political complex. Consumer advocates need to advertise consumerism. Marketing scholars have agreed that consumerism is part of a marketers' environment and has to be considered in the formulation of marketing strategies (Kotler, 1972). To ignore this particular expression of consumers' needs and wants is another form of marketing myopia strongly decried by Levitt (1983). It is realistic to say that consumerism does create problems and additional costs, but it is also realistic to say that it provides opportunities to the marketers willing to consider consumers' concerns.

Finally, needs for governmental regulation or programs of consumer education/information need to be emphasized by outspoken consumer leaders. In Korea, as many other countries, much depends on the government's role as initiator or inhibitor of the process. Consumer advocates should demonstrate to government that consumerism provides better, safer and more efficient products and services, and, as a result, stimulates economic development (Kaynak & Wikstrom, 1985). The government should be helped to realize that consumerism is an important component of economic development and encourage the business sector to support consumerism activity or introduce the legislation to force compliance.

Summary

In this paper, a survey of the development of Korean consumerism, which illustrates the characteristics of the Korean consumer movement, was presented. For Korean consumer movement to be a successful movement, challenges and problems of the current consumer movement were identified. Responding to these changing environment, consumerists need to articulate the potential problems and to propose remedies to protect consumer interests. Toward a more successful movement, consumer advocates need to establish their own identity separately from other ideologies, enhance their organizational resources and develop plans of action based on the analysis of the environment as well as clear goals. Implications for consumer leaders were also drawn from Smelser's theory of social movement.

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Global Consumer Education: A Content Analysis of Project Real World

Adherence to the value of materialism and to an egocentric paradigm have prompted many to question our consumption decisions in light of their impact on the global village. If we are to teach students to respect the inherent human and consumer rights of all global citizens, our consumer economic curricula must embrace a global perspective. This paper discusses the results of a content analysis of Project Real World (PRW), a new consumer economics curriculum, from a global perspective (fulfillment of a practicum requirement for a 1993-94 Canadian Home Economics Association (CHEA) global education workshop).

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What is a global perspective?

Succinctly, a global perspective consists "of the information, attitudes, awareness, and skills which taken together, can help individuals understand the world, how they affect others, and how others affect them" (Babich cited in Smith, 1993, p.19). Attention to world interdependence has been on the increase in education in general, and more recently, in home economics education. In 1989, Smith suggested that "global concepts are a part of home economics but their place in home economics curricula needs further defining" (p.112). To that end, Smith and Peterat (1992) published a valuable document that provides a comprehensive yet easy to use and understand conceptualization of what a global perspective means to home economics (14 guiding principles) (see Table 1).

Table 1
Dimensions of a global perspective

Perspective consciousness: we have view of the world that is not universally shared

State of the planet awareness: aware of prevailing and emerging world conditions and developments

Cross cultural awareness: there are a diversity of ideas and practices found in human societies

Knowledge of global dynamics: modest comprehension of key traits and mechanisms of the world system

Aware of human choices and consequences: aware of problems related to choices facing people and nations and how these choices change as one gains an consciousness of global systems

Balanced development: demands should not strain local supply

Voluntary simplicity: creation of a lifestyle by streamlining and simplifying personal possessions

Technology comparable with local culture

International reciprocity: appreciate that each culture has much to give and much to gain from cross cultural interactions

Sustainable lifestyles: involves intricate balance of all influences operating within a culture

Systems consciousness: ability to think is a systems mode rather than a dualistic mode (cause/effect; problem/solution; local/global)

Involvement consciousness and preparedness: choices made and actions taken have repercussions for the global present and in the future

Process mindedness: learning and personal development are continuous journeys with no fixed or final destination

Responsible value deliberations and moral justifications for decisions: base consumer decisions on values as well as facts; make decisions on the basis of good reasons rather than force, self interest, fear, habit, customs

What is Project Real World?

Project Real World is a five module, activity based program designed to empower the Grade 10-12 student to cope with, question, manage and influence the multitude of changes in the macro environment impacting on the consumer in the marketplace. It was initiated in the fall of 1988 by a special Canadian Federal/Provincial Consumer Education and Plain Language Task Force. Subsequent to cooperative development between six Canadian provinces and extensive field testing, the curriculum was released in the summer of 1992[3]. It is a modular series covering the wide gamut of marketplace education topics and is based on Bannister and Monsma's (1982) well known classification system for consumer education concepts (known as Classi).

By way of a rationale, PRW argues that young people have an enormous amount of spending power in the complex Canadian marketplace; yet, their purchase decisions may be less than optimal if they have not been equipped with consumer education skills and processes, things they need to effectively discern the influence of the marketplace on their goals, values, needs and wants. The authors of PRW argue that students need to know how to make personal economic choices in the context of Canada's economy, and be skilled at the steps involved in reaching their personal and financial objectives and goals. It is this process of decision making that will remain timelessly with individuals as they face a world of rapid change ("Federal/Provincial", 1992). The scope of the five modules includes:

Module 1. The Canadian Marketplace and You - globilization of the market, advancing technology, the environment, and the economic, social and political changes and the impact of these spheres of the macro environment on the consumer

Module 2. Your Economic Decisions - individual, the consumer decision process and factors which influence this decision process

Module 3. Resource Management Skills - individual financial planning and shopping skills

Module 4. Entrepreneurship and the World of Work - self assessment and the skills required to career plan, job find and venture into self-employment

Module 5. Citizen Participation - increasing student's awareness of rights and responsibilities, the consumer protection framework, complaint procedures and assertiveness in the marketplace ("Federal/Provincial", 1992).

Methodology

PRW was analyzed by conducting a content analysis using a "code in use" approach to code words and phrases (Holsti, 1969; Miles & Huberman, 1984). A preliminary start list was created by drawing on a recent study which identified **nine trigger terms** that serve as indicators of global concepts (Cissell cited in Peterat, 1989): world, international, across cultures, other cultures, other nations, other geographical areas, developing countries, global and earth. Upon reading Peterat's analysis of her 1989 study in conjunction with the pilot coding procedure noted below, the authors added an additional 12 trigger words: interdependent world, worldwide, cultural values, cultural factors, other places/other ways, other life style patterns, global interdependence, global interest, global impact, think globally and global goals. The final coding instrument comprising twenty one trigger concepts and was organized using the eleven organizational components of the PRW modules.

Consensual reliability (92% congruence level) was achieved by double coding using two different people at two different times(Krippendorff, 1980; Lindkvist, 1981; Sepstrup, 1981). Since this level of coding reliability assures that the data collected from the documents adequately reflects the facts or reality (Andren, 1981), we coded two separate modules each rather than each coding all four modules (2 and 3 and 1 and 5).

Our analysis excluded the module on Entrepreneurship and the World of Work because we felt that job availability, job security and job satisfaction (resource generation) are important but peripheral variables relative to the core process of making consumer decisions (resource expenditure and management).

Results

When ones relates PRW to the 14 principles or dimensions of a global perspective (see Table 1), it is clearly evident that PRW was not developed from the an ideology that embraces a global perspective. Six principles are evident in three of the modules (no evidence of global perspective in module five) but not from a global perspective: state of planet awareness (limited to conserving to save the environment); cross cultural awareness (only from traditional conception of global education); consequences of human choices (but not from a global perspective); systems consciousness

(but only in relation to domestic economy and not reciprocity); process mindedness (but not for global intent); and personal values (but not definsible moral judgements).

Evidence of global perspective in specific modules

The strength of the argument for evidence of a global perspective in PRW depends on how it is operationalized. If one accepts that mention of any one of the 21 global triger concepts constituted evidence of a global perspective, then we can say that a global interest was evident in 20 of the 39 conceptual areas and in three of the four modules (not citizen participation). If, however, a global interest is more rigorously operationalized as comprising multiple coding of multiple concepts, then a much smaller number of conceptual areas could be said to offer a global perspective (7 of the 39) and in only two modules:

Module 1 - The Canadian Marketplace and You
- The consumer and the economy
- Economic systems
- Political and social systems
- Government public policy, regulations, interest groups
- Society and the individual

Module 2 - Your economic decisions
- Adult roles, freedoms, choices and responsibilities
- Environment (conserving)

Furthermore, only two global concepts provided the bulk of the evidence: "other countries" and "cultural values". Given that blending the 21 global concepts with the 39 consumer economic conceptual areas could yield a powerful tool from which to teach global perspective to young students, this is a very narrow representation of a global perspective.

Although not included in this content analysis, future researchers attempting to determine the presence of a global perspective in written documents may want to code for the following concepts as well because they could be construed as a conferring a global perspective to consumer economics: values; systems; morals, planet, quality of life; standard of living; environment; sustainability, diversity, stewardship, and community needs. Many of these concepts are reflected in the 14 principles related to a global perspective.

Components of the curriculum most likely to contain reference to global concepts

Evidence of a global perspective was limited to two components of the PRW curriculum: For the Teacher (n=32) and Procedures to implement the lesson (n=39). Just three concepts provided this evidence of a global perspective ("other countries", "world" and "earth") and only in the section dealing with the environment (module two).

Sometimes what is absent is more revealing than that which is present; curriculum components that did not include any global reference included "Purpose" and "Scope" (n=1) of the module. We feel that these would be appropriate sections in which to sensitize teachers/educators to the relevance of exposing students to a global perspective as regards consumption and resource management decisions.

Recommendations

Conclusion #1

PRW provides the foundation of sound consumer education advocated for by Classi: (a) consumer decision making in the marketplace; (b) resource management; and (c) citizen advocacy and participation in the marketplace. Unfortunately, we have to conclude that PRW falls short of bringing a global perspective to consumer education. It currently orients students to their activities in the Canadian market based economy but not to the consequences of their consumption decisions on citizens of other market or non-market based economics in the global/international marketplace.

Recommendation. One is reminded that PRW is based on Classi. It is encouraging that Lusby (1992) has recently modified and expanded Classi such that the new version introduces educators, marketers, and consumers to a more global perspective from which to consider consumer decisions and consumer education. Lusby contributes such concepts as consumer ethics, the ecosystem perspective, the cradle to grave product and service perspective, and the concept of local, domestic and global realms to the field of consumer education. She advocated a shift from a microscopic, micro-economic, personal perspective of consumer education to a holistic, macroscopic, global, ecologically responsible, humanitarian perspective; a paradigm shift from egocentric to ecocentric consumer decisions.[4]

Conclusion #2

There was absolutely no evidence of any global concepts in the module on Citizen Participation. This is a concern because citizen participation entails training

consumers in strategies of (a) analysis, (b) critical evaluation of alternative solutions to consumer issues and problems, and (c) influence to ensure that their voice is heard in the public and private decisions which affect consumer concerns (Bannister & Monsma, 1982). From a global perspective, these consumer concerns are not solely domestic.

Recommendation. Consumers need to be taught to appreciate the impact of their consumption decisions on the basic human rights of citizens in developing countries. They need to recognize that sometimes basic human rights need to supersede basic consumer rights or at the least become part of the consumer decision making equation (see table 2). How else can they begin to understand the world, how they affect others, and how others affect them; that is, embrace the global perspective?

Table 2
Comparison of Basic Human Rights and Basic Consumer Rights

Basic human rights (Ulrich, 1994, p.2)

Security from:	killing, torture, arrest or detention
Participation:	voice in policy, vote, express opinions, association in groups
Welfare:	education, health
Non-discrimination:	gender rights, cultural rights
Political institutions:	rule of law, legislature, executive, judicial; military

Basic consumer rights (McGregor, 1994) (all of these consumer rights assume the basic human rights)

Information
Choice
Safety/health
Voice in policy
Redress
Environment
Consumer education
Privacy
Fairness/economic security

Conclusion #3

The investigators strongly believe that PRW has incredible potential to bring a global perspective to young consumers. It already includes many consumer issues inherent in the PRW curriculum that could benefit from a global perspective. Parts of the curriculum already seem primed for a global perspective ("For the Teacher" and "Procedures to implement the lessons"). Many sections of three of the PRW modules are "ripe" for the inclusion of global concepts, especially those in Modules 1 and 2.

Recommendation. Work needs to be done to bring all 14 of the global principles into PRW, especially in the "Purpose" and "Scope" sections, if teachers are to be sensitized to the merits and means of bringing a global perspective to consumer education.

Recommendation. Those using PRW can initially use the following consumer issues already embeded in the content and bring a global perspective to them: transportation; advertising and the transmission of culturally sensitive messages; recreation/leisure (pursuit of leisure at expense of third world countries); non-market based economies and resultant consumer problems; international trade and the consumer interest, especially in developing countries; ethical investing; national debts; and life style choices.

Recommendation. The modules dealing with resource management and citizen participation definitely need to be revised so that a foundation can be put in place from which to bring a global perspective. The Canadian Home Economics Association[5] (1992) has already developed a series of 16 global resource files that could supplement the PRW curriculum and serve as the substance of this initial foundation. These resource files are available from CHEA for a nominal fee and encompass global dimensions of: family studies, housing, clothing, diapers, staple foods and food securities, and work.

Conclusion

Bringing a global perspective to PRW will be a large step towards a "new consumerism" in a global marketplace. This initiative builds on the acclaimed consumer education classification system (Classi) and a new consumer economics curriculum that is gaining world wide recognition. PRW is being translated into several languages and being adapted by several developing countries (Karen Gamey, personal communication, October 4, 1994). The results of this global analysis have been shared with CHEA and with the Federal/Provincial Consumer Education and Plain Language Task Force that is turning its hand towards revising PRW. Dr. McGregor has been recently named to this task force and looks forward to the prospect of contributing to this valuable contribution to global consumer education.

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4. These resources files and the work done by Smith and Peterat (1992) and Lusby (1992) are available from the Canadian Home Economics Association, 901-151 Slater Street,Ottawa, ON Canada, K1P 5H3. 613-238-8817 $10.00CDN).
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Cigarette Consumption in China: Implications for Public Health and Trade

This paper discusses the general trends in China's cigarette consumption and estimates demand elasticities for cigarettes using household survey data. Demand elasticities estimated from a LA/AIDS model indicate that household demand for cigarettes is elastic with respect to total expenditure and own price but inelastic with respect to cross prices. Our analysis suggests that China's cigarette consumption will continue to grow as income increases and smoking-related social costs are expected to increase.

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Introduction

China's steady growth in population and per capita cigarette consumption has made China the world's leading cigarette consumer since the late 1980s. With about one-fifth of the world's population, China accounted for more than one-third of world cigarette consumption during 1988 to 1992 (Ren, 1993). There are officially 300 million smokers in China and 10 percent of them are women. But the number of smokers is believed to be vastly understated because many female smokers in China don't admit to smoking (*The Wall Street Journal*, April 28, 1994). China's per capita cigarette consumption increased from 30.82 packs in 1978 to 70.02 packs in 1992. Such rapid growth in cigarette consumption is also reflected in domestic cigarette production, from 11.82 to 32.85 million cases over the same period [250 cartons per case and 200 cigarettes per carton, State Statistical Bureau of China (SSB), 1993].

Rapid growth in China's cigarette consumption and production has brought about many critical problems such as smoking-related health hazards and competition between tobacco and grain crops for the extremely limited per capita arable land (Zhao, 1993; Ren, 1993). The *China News Digest* (February 6, 1995) reported that the deaths from lung cancer and other smoking- related illnesses in China were about one million in 1992 and that number could reach 2 million by 2030. Considering China's gradual transition from a centrally-planned to a market economy, its cigarette consumption and smoking-related social costs are increasingly dependent on consumer demand and government policy. Empirical estimates of demand elasticities for cigarettes and some closely related commodities in China are important for policymakers to assess the impacts of alternative policies and for cigarette industries to predict market demand. Information on China's cigarette demand is also important for the tobacco and cigarette industries and traders in many other countries such as the United States to understand China's trade behavior. With $966 million cigarette and tobacco trade in 1992 (ERS/USDA, 1993), China has become an important player in the world tobacco and cigarette markets.

The objectives of this study are threefold: (1) to discuss the general trends in China's cigarette supply and demand as well as smoking-related social costs; (2) to estimate demand elasticities for cigarettes and some closely related commodities using a demand system approach; and (3) to discuss implications of China's cigarette consumption for public health and international trade. To the best of our knowledge, this may be the first empirical study on China's cigarette demand using household survey data. The following sections discuss the general trends, specify an empirical demand model, describe the data source, present the estimation results, and discuss major conclusions and implications.

China's Cigarette Production, Consumption, Trade and Social Costs

Although historical data on China's cigarette production and consumption are quite limited, this section presents an effort to trace the general trends based on the most recent available data. Some related economic and policy issues are also briefly discussed.

Tobacco and Cigarette Production

The time-series data of China's flue cured tobacco leaf and cigarette outputs indicate that the growth in tobacco leaf and cigarette outputs moved together from 1950 to 1978, but tobacco leaf output has fluctuated significantly since 1978. China's cigarette output

increased from 1.85 million cases in 1950 to 32.85 million cases in 1992, while the flue cured tobacco leaf output rose from 0.06 to 3.12 mmt over the same period. China's annual tobacco area and average yield suggest that the steady growth in tobacco output since 1978 has mainly come from increased acreage rather than increased yields. In fact, the per hectare yield of flue cured tobacco declined from 2190 kilogram (kg) in 1980 to 1687 kg in 1992. In addition to weather, the expansion of tobacco production to areas with low and unstable yields has contributed to the fluctuation in average yield and total output.

Three policy factors have contributed to China's rapid growth in tobacco and cigarette production since 1978. First, the replacement of the commune system by the "household production contract system" around 1980 has allowed farmers to make their own production decisions (Lin, 1987). With a relatively high market price for tobacco leaf in the past several years, many farmers have shifted their production efforts from grain to tobacco crops. Second, because local governments can share about 38 percent of the tobacco and cigarette tax revenue, many local governments have set favorable policies for tobacco and cigarette production (Zhao, 1993; ERS/USDA, 1993). As a result, China's total tobacco leaf area in 1992 was 1.89 million ha which was 45 percent higher than the central government's target (ERS/USDA, 1993). Third, China did not have strict restrictions on cigarette production and transportation until China's Tobacco Monopoly Law was published in 1992.

Cigarette Consumption

China's official data on average per capita cigarette consumption are available for selected years during 1950 to 1978 and all years thereafter (SSB, 1993). Similar to the changes in cigarette and tobacco production, the average per capita cigarette consumption increased slowly from 1950 to 1978 but more than doubled during 1978 to 1992. China officially has 300 million smokers and 10 percent of them are women, but the number may be vastly understated because many female smokers do not admit to their smoking habit. According to the reports of a nationwide survey conducted by the SSB in 1992, the national average smoking rate for people over 15 years old was 34.9 percent, and Henan province had the highest provincial average rate of 41.5 percent. SSB (1992) has predicted that the number of Chinese smokers will continue to grow at a significant rate and the starting age of smoking will decline.

Cigarette and Tobacco Trade

China's tobacco leaf and cigarette trade has increased significantly since the mid-1980s and reached $966 million in 1992 (ERS/USDA, 1993). Because China has successfully developed new markets in southeast Asia and the former Soviet Union, exports of tobacco leaf surged to 110,000 tons in 1992 from 72,570 in 1991, and cigarettes exports climbed from 16 to 20 billion pieces for the same period (ERS/USDA, 1993). Major importers of Chinese tobacco and cigarettes include Hong Kong, Indonesia, Egypt, Singapore and Russia. Because of a rising preference for foreign brand cigarettes, China's cigarette imports rose from 5.3 billion pieces in 1991 to 8.0 billion pieces in 1992. The United States, Hong Kong and U.K. are the major exporters of cigarettes to China. China has also imported significant amounts of tobacco leaf from Zimbabwe and Thailand. In addition to official imports, a large amount of foreign tobacco products have been smuggled into China every year. The official estimates of cigarettes smuggled into the Chinese market in 1988 accounted for about 30 percent of total foreign cigarettes sold in China in that year (Ren, 1993). As domestic production continues to outstrip demand, China's tobacco leaf and cigarette exports are expected to keep growing. On the other hand, imports of foreign brand tobacco products are also expected to increase as China moves closer to a market economy and the average personal income continues to increase. Furthermore, China's economic boom and favorable policies toward foreign investments have attracted a lot of foreign capital to China's cigarette industries. It is expected that a significant proportion of the products produced by the joint ventures will be exported. All the information suggests that China will remain as an important trader in the world tobacco and cigarette markets.

Social Costs of Smoking

China's rapid growth in cigarette consumption has brought about significant impacts on public health and safety. Many studies have identified smoking as the key factor for China's high rate of respiratory diseases such as lung cancer (Nath, 1986; Ren, 1993; Zhao, 1993). Respiratory system diseases were the number one cause of all the deaths in rural areas and the number two cause in urban areas in the past several years. For example, the proportion of all the deaths caused by respiratory diseases in 1992 was 26 percent in rural areas and 16.84 percent in urban areas (SSB, 1993). One estimate suggests that smoking-related diseases took the lives of about one million people who were over 20 years old in China in 1994 and that number could reach two million by 2030 (*China News Digest*, February 6, 1995).

In addition to the increasing cigarette consumption, the declining tobacco and cigarette quality has also contributed to the health hazards of smoking in China (Zhao, 1993). Another health alert for China is the high smoking rate of school students and the declining starting age of smoking. Zhao (1993) reported that the smoking rate was about 33 percent for middle school students in Nanjing city and 48 percent for high school students in the Chaoyang district in Beijing city. Besides health problems, smoking has been one of the major causes of fire accidents in both rural and urban areas (Ren, 1993). According to a report on the Chinese Workers' Daily, there were about 40,000 serious fires in 1994 that killed 2,748 people and caused about $147 million damages and about 70 percent of the fires were triggered by smoking (*China News Digest*, February 6, 1995).

China's annual tobacco and cigarette tax was about 20-30 billion Renminbi yuan (Rmb) in the past several years. Many scholars indicate that the social costs of smoking for China are much greater than the tax revenues (Zhao, 1993; Ren, 1993). For example, one study estimated that social economic loss caused by smoking in 1989 was 27.08 billion Rmb, which was greater than the tax revenue of 24.0 billion Rmb (Zhao, 1993). China's grain production has always been a top priority of the national economy, but the rapid growth of tobacco production, from 0.512 million ha in 1980 to 1.89 million ha in 1992, has left less arable land for grain production (ERS/USDA, 1993).

An Empirical Demand Model

Consumer demand theory and previous demand studies suggest that consumer demand for cigarettes is likely determined by income, prices of cigarettes and some closely related commodities, household characteristics, etc. A demand system approach is used in this study to estimate demand elasticities for cigarettes, liquor, beer, and tea. Those commodities have been always aggregated into one group called "other food" in China's statistical system and in previous studies of China's household food demand (e.g., Halbrendt et al., 1994; Lewis and Andrew, 1989; Wang and Chern, 1992). The almost ideal demand system (AIDS) proposed by Deaton and Muellbauer (1980) is employed as the framework of estimation. This demand system is selected based on its desired properties and simplicity of estimation. The demand system can be represented as:

$$W_i = \alpha_i + \sum_j r_{ij} \ln(p_j) + \beta_i \ln(X/P) \qquad (1)$$

$$\ln(P) = \alpha_0 + \sum_j \alpha_j \ln(p_j) + 0.5 \sum_j \sum_k r_{ik} \ln(p_j) \ln(p_k) \qquad (2)$$

where W_i is the budget share of good i, p_j is the price of good j, X is the total expenditure on cigarettes, alcoholic beverages and tea, and P is a price index. In empirical studies, P has been commonly replaced by the Stone price index to reduce the AIDS to a linear system called LA/AIDS (Blanciforti and Green, 1983):

$$\ln(P^*) = \sum_j W_j \ln(p_j) \qquad (3)$$

In addition to the expenditure and prices, household demand is likely to be affected by demographic variables such as household size and location (Buse, 1987). This study incorporates demographic variables into the LA/AIDS model by translating the intercept term in (1):

$$\alpha_i = a_i + \sum_k b_{ik} D_k \qquad (4)$$

where D_k is the k^{th} demographic variable. Substituting (3) and (4) into (1) yields the final specification of the demand system to be estimated:

$$W_i = a_i + \sum_k b_{ik} D_k + \sum_j r_{ij} \ln(p_j) + \beta_i \ln(X/P^*) \qquad (5)$$

The expenditure and uncompensated price elasticities are given by:

$$e_i = 1 + (\beta_i / W_i) \qquad (6)$$

$$\delta_{ij} = -c_{ij} + (1/W_i)[r_{ij} - (\beta_i W_j)] \qquad (7)$$

where e_i is the expenditure elasticity of good i, δ_{ij} denotes the price elasticity of good i with respect to good j, c_{ij} equals 1 for i=j and 0 otherwise.

Data Sources and Estimation Method

The following analysis is based on regional data sets of China's Rural Household Survey from Beijing and Jiangsu in 1990. The national survey is administered by the SSB and implemented at the provincial level. Sample households were selected by using a three-stage stratified sampling scheme: counties were first selected from each province, villages were then selected from each selected county, and finally households were selected from each village. The participating households were requested to keep detailed records of their daily income and expenditures by using the account books provided by the SSB. The account books were collected, examined, aggregated and reported by local statistical agencies every month (Taylor and Hardee, 1986).

Our data sets obtained from local statistical

agencies in Beijing and Jiangsu include 500 rural households from 5 counties in Beijing and 440 rural households from 4 counties in Jiangsu province. The data set contains 640 variables for each sample household, including household characteristics, production inputs and outputs, household consumption and expenditure, etc. A common problem in household survey data is that prices are not directly available and therefore certain estimates of the prices need to be used in estimating demand functions. One commonly used approach in cross-sectional studies is to use the unit values derived from total expenditures and quantities as estimates of the prices (e.g., Pitt, 1982; Cheng and Capps, 1988). The major problem associated with this approach is that the cross-sectional variation in unit values may reflect qualitative differences (Deaton, 1988). To incorporate the cross-sectional variation in unit values caused by qualitative differences in commodities, several studies have used the quality-adjusted unit values as estimates of the prices (e.g., Cox and Wohlgenant, 1986). The quality-adjusted prices are generally estimated using demographic variables as the proxies for household preferences over unobservable quality characteristics (Cox and Wohlgenant, 1986). The procedures discussed by Cox and Wohlgenant (1986) are used in this study to derive the quality-adjusted unit values which are then used as the prices in estimating the demand system. Our demand system includes four commodities: cigarettes, liquor, beer and tea. The demographic variables included in the demand system include location, household types, education, household size, employment, etc. Another note on the data is that liquor used in our analysis includes all alcoholic beverages except beer.

The iterated seemingly unrelated regressions (ITSUR) are used to estimate the LA/AIDS model with homogeneity and symmetry restrictions imposed on the parameters. Because the budget share equations sum to one, one equation is dropped from the system to avoid singularity in the estimation. The parameters of the dropped equation are then derived from the adding-up restrictions.

Estimation Results

The quality-adjusted unit values are estimated using the approach discussed in the previous section. The estimation results, not reported in this paper, indicate that demographic variables can explain only a small percentage (around 5 percent) of the cross-sectional variation in unit values. This is similar to the results of Cox and Wohlgenant (1986) for U.S. vegetable demand.

The LA/AIDS model with 10 demographic variables is estimated using the data and estimation method described in the last section. According to the t-ratios of the estimated parameters (not reported in this paper), most of the estimates are significantly different from zero at the 95 percent level. The signs and t-ratios of the estimated parameters of the demographic variables suggest several conclusions: (1) household demand for those commodities are quite different across regions, especially across provinces; (2) households with at least one member as a village leader or working in the state sector are likely to consume more cigarettes and liquor; (3) households with more children under 11 years old tend to consume less cigarettes; and (4) the impacts of education on cigarette consumption are not significant.

The estimated demand elasticities and marginal expenditure shares based on sample means are reported in Table 1. The demand is expenditure elastic for cigarette and relatively inelastic for other three commodities. This result implies that Chinese rural households in Beijing and Jiangsu will consume more cigarettes as their total expenditure on this group of commodities increases. The marginal expenditure shares derived from the estimated expenditure elasticities and mean expenditure shares suggest that the allocations of the additional expenditure for this particular group of commodities are 58.8 percent for cigarettes, 25.56 percent for liquor, 7.85 percent for beer, and 7.79 percent for tea.

As expected, all the estimated own-price elasticities are negative. With respect to their own prices, the demand is elastic for cigarettes and beer but inelastic for liquor and tea. According to the estimated cross-price elasticities, cigarettes and liquor are likely complements, whereas beer and liquor, and tea and beer tend to be substitutes. As one limitation of our empirical estimation, the significance of the estimated elasticities are not tested and therefore it is possible that some estimated elasticities are not significantly different from zero.

Concluding Remarks

With more than 300 million smokers and an increasing smoking rate, China's tobacco situation and social costs of smoking require urgent attention of the Chinese government and the international community. This study first discusses the general trends in China's cigarette supply and demand as well as smoking-related social costs and then estimates demandelasticities for cigarettes by applying a demand system approach to the household survey data from Beijing and Jiangsu in China. Results suggest several conclusions: First, cigarette consumption in rural China is significantly determined by income, prices and demographic variables. Second, the relatively high expenditure elasticity and marginal

Table 1
Estimated Marginal Budget Shares and Demand Elasticities

Commodity (*i*)	Expenditure elasticity	Marginal budget share	Uncompensated price elasticity of good *i* with respect to good *j*			
			Cigarette	Liquor	Beer	Tea
Cigarette	1.1624	0.5880	-1.176	0.141	-0.022	-0.045
Liquor	0.8808	0.2556	-0.102	-0.785	0.017	-0.011
Beer	0.8109	0.0785	0.061	0.072	-1.022	0.078
Tea	0.7270	0.0779	0.006	0.015	0.079	-0.827

expenditure share for cigarettes suggest that the demand for cigarette will continue to grow at a significant rate as income increases. This is consistent with the observations from many other developing countries (Nath, 1986). Third, because the demand for cigarettes is elastic with respect to its own price, increasing cigarette tax may have a negative impact on cigarette consumption. Fourth, changing the tax rates for cigarettes and liquor may have similar effects on their demand because they tend to be complements for Chinese rural households.

This study suggests two major implications: First, the smoking-related health hazards such as lung cancer and other social costs like fire disasters have been a serious problem for China. Although the tobacco and cigarette industries have been a major source of state revenues, the social costs of smoking could offset the tax revenues. With one-fifth of the world's population, China's cigarette consumption and social effects require international attention. Second, because of the rapidly growing domestic production and increasing demand for Chinese cigarettes in many southeast Asian countries and the former Soviet Union, China will continue to be an important tobacco and cigarette exporter in the world markets. On the other hand, with rapid income growth and strong preferences for foreign brand cigarettes, China is likely to expand its imports of cigarettes from western countries such as the United States. Thus the anticipated growth in China's cigarette production and consumption will bring about both opportunities and challenges for western tobacco and cigarette companies which have faced continuing declines in domestic demand for their products.

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Are All Debts Created Equally?

This study investigates the composition of newlywed couples' debt portfolios as it affects their debt difficulty, measured via three different financial ratios--a solvency ratio, a liquidity ratio, and a debt repayment ratio. The newlywed couples, all at the same family life cycle stage, had quite variable debt portfolios. Having charge account balances due, automobile loans outstanding, and other debt (including medical and educational debt and debts owed to family and friends) most consistently discriminated newlywed couples at risk for debt difficulty from other couples.

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Recent studies of household debt have increasingly used financial ratios to measure or predict financial problems (Griffith, 1985; Johnson & Widdows, 1985; Lytton, Garman & Porter, 1991; Prather, 1990). DeVaney (1993), using the 1983-86 Survey of Consumer Finances panel, demonstrated the use of solvency, liquidity, and debt repayment ratios in predicting families' insolvency. Although research on debt ratios has recently increased, few analyses have focused on predictors of debt difficulty. Almost all the studies have focused on the role of income or demographic predictors of debt trouble (e.g., Canner & Luckett, 1990; DeVaney, 1993; Sullivan & Fisher, 1988). Although families' debt portfolios have changed markedly (Avery, Elliehausen, & Kennickell, 1987; Kennickell & Shack-Marquez, 1992), no research has investigated the type of debt as it influences debt difficulties.

All types of debt are not created equally, either in terms of availability, costs, flexibility of payments, risk, length of term, or tax status. New types of credit, such as variable rate and secured credit cards and equity credit lines, have increased consumers' choices in the credit market. A reading of the popular media would suggest that the increased availability of credit cards is responsible for the increase in overindebtedness. Available research does not address such a speculation, nor does it provide any insights into the role of other types of debt in family debt difficulty. The purpose of this study is to investigate newlywed couples' debt difficulty as a function of the type of debt they hold, including outstanding bills, credit cards, charge accounts, installment debt, automobile debt, and other debt.

Predictors of Debt Difficulty

Researchers have investigated the predictors of debt delinquency and default (Canner & Luckett, 1990; Moses & Liao, 1987; Peterson & Peterson, 1981; Sullivan & Fisher, 1988). Many older studies tested lenders' credit scoring systems, used to predict timely debt repayment. In a critique of these scoring systems, Capon (1982) dismissed many of these techniques because of their atheoretical nature, bias, multicollinearity among the predictors, small samples, and misuse in their application.

Recent studies (e.g., Canner & Luckett, 1990; DeVaney, 1993; Sullivan & Fisher, 1988) have overcome these difficulties by using nationally representative data sets and better procedures. For example, DeVaney (1993) tested the usefulness of various financial ratios in predicting future financial insolvency of families (having a net worth of less than one month's income). Using data from 1,934 families in the 1983 and 1986 Survey of Consumer Finance, she found three ratios to be significantly related to propensity for insolvency. The most important was the families' liquidity ratio, a debt payment ratio and a solvency ratio (total assets/total liabilities). These ratios were more strongly related to families' financial difficulties than the demographic characteristics she examined.

Studies have included the composition of family debt portfolios among the predictors of family debt difficulty. The basic question is, separate from the risk represented by certain families obtaining certain types of debt (because of their relative "credit worthiness", are there components of the debt portfolio that are particularly likely to result in debt difficulty? This question will be examined with a sample of newlywed couples who are homogeneous with respect to their stage in the family life cycle, so that life cycle factors that affect families' demand for credit are controlled through sampling.

Methods

Sample and Data Collection

Newlywed spouses were selected through a two-stage random sampling process of Georgia marriage license applications in 1991. In May, 1992 questionnaires were mailed to 800 couples. A follow-up postcard and another questionnaire were sent approximately two and four weeks later, respectively. Because of undeliverable questionnaires, ineligible couples and nonreturns (n=108), the data for this analysis are from 256 newlywed couples; this represented an eligible return rate of 40%, a reasonable rate given the length of the questionnaire. Still, the results can only be generalized to Georgia newlywed couples. The trade-off of lower external validity is made in order to obtain the greater homogeneity in the sample regarding family life cycle for internal validity purposes.

Measurement of Variables

Respondents were asked to report in an open-ended format the current market value of their various assets and the outstanding balance due on the various debts they owed on December 31, 1991. Subjects were asked about account balances for 18 types of paper assets: cash, checking accounts, savings accounts, money market accounts, stocks, bonds, mutual funds, IRAs and Keogh accounts, cash value of life insurance and other paper assets. Additionally, they were asked to report on the fair market value of 11 types of tangible assets. Respondents also reported on 19 debts: outstanding bills, credit card balances, charge account debt, installment loans, automobile loans, mortgage loans, home equity debt, personal loans, and other debt. A final measure of family debt was taken by asking "Out of your current monthly income, about how much do you use to repay debt that you obtained in the past, excluding mortgage payments?" Fourteen closed-ended responses were available.

Measures of debt difficulty. Measures of debt difficulty were comparable, though not identical, to those found by DeVaney (1993) to be significant predictors of future family insolvency. The first was a solvency ratio that captures the degree to which families' debts could be paid off by liquidating their portfolio of assets. It is the debt/asset ratio, calculated by dividing the total liabilities of the family by their total assets. For purposes of the final analyses, the debt/asset risk variable was recoded to a dichotomous variable; families with a debt/asset ratio of less than .70 were assigned a zero (no risk) and families with a debt/asset ratio of greater than or equal to .70 were assigned a one (insolvency risk) (Gitman and Joehnk 1990).

The second ratio was a liquidity ratio, which measures the ability of the family to cover current debts with their available liquid assets. This is commonly used as a measure of emergency preparedness capturing how well families can continue to pay their debt in the face of decreasing income. The liquidity ratio was calculated as the liquid assets of the family divided by the "current" debts of the family. Current debts were defined (Gitman, & Joehnk, 1990) as any debts that are due and payable within one year; included here are outstanding bills, credit card debt, charge account balances, and installment loans of 12 months term or less. For the analysis of liquidity risk, this continuous variable was dichotomized; families with a liquidity ratio of $\geq$ 1.0 were assigned a zero (no liquidity risk) and families with liquidity ratios of $<$ 1.0 were assigned a one (risk of illiquidity), based on Gitman and Joehnk (1990).

The final ratio was a measure of families' debt repayment burden, monthly debt repayment on all consumer debts divided by the monthly net income. For the measure of debt repayment risk, this variable was dichotomized; families with a debt repayment income ratio of $<$ .20 were assigned a zero (no debt repayment risk) and families with a debt repayment/income ratio of $\geq$ .20 were assigned a value of one (risk of debt repayment burden). The "risky" debt repayment level of .20 was chosen because this ratio is a commonly cited (e.g., Gitman & Joehnk, 1990) indication of the level of debt repayment that poses a burden to the families.

Measures of type of debt. Newlywed couples' debt was analyzed according to eight different types of debt: mortgage debt, home equity loans or credit lines, outstanding bills, credit card debt, charge account debt, installment loans, automobile loans, other debt (including educational debt, medical debt, and debt to family and friends). For descriptive purposes, these variables were measured continuously as the sum of the various individual items (for example, credit card debt was the sum of the debt on all credit cards listed). For later analyses of the debt risk of families, each of the variables was dichotomized.

Measures of correlates of debt. Four indicators of families' need for borrowing were measured, including whether the family had a child the number of changes in the family (e.g. employment and health problems), income adequacy and income certainty. Each of these variables captures some aspect of a newlywed couples' need for extra resources that may be met by borrowing money.

The indicators of ability to obtain credit included eight variables that are traditionally used by lenders as indicators of credit worthiness or indicate a couples' financial stability or knowledge of the credit

marketplace. These were age, education, total family income employment of wives, the number of sources of income, occupational status, and husbands' and wives' family finance training. Each of these variables captures some aspect of the couples' credit worthiness or their ability to understand and complete the financial transactions involved in obtaining credit.

Five variables were measured that captured some aspect of families' willingness to borrow money. One indicator of willingness to borrow was an attitudes toward credit scale from the Survey of Consumer Finances. Three other attitudinal variables were derived from a factor analysis of a set of 20 items that had been adapted from previous instruments in a pilot study—feeling more in control, positive attitudes toward planning, and a future-oriented time horizon. A final indicator of couples' willingness to borrow is their attitude toward risk. Respondents were asked to indicate which of five statements came closest to describing the amount of financial risk they are willing to take. Responses included from "take substantial financial risks" (coded 5) "take above average risks" (4), "take average financial risks" (3), "take below average risk" (2) and "not willing to take any financial risks" (1).

Data analysis

Multiple discriminant analysis was used to assess the efficacy of the predictor variables in discriminating between the couples at risk for debt difficulty and those not at risk. First, all of the variables representing need for borrowing, ability to obtain credit, and willingness to incur debt, as well as the dichotomous variables representing the seven types of debt (omitting home equity debt because of its low variability) were entered into each of three discriminant analyses. Then, a reduced

Table 1
Newlywed couples' debt portfolios

Type of debt	Couples with this type of debt (n=256)		Total sample this type of debt		Couples with this type of debt	
	n	%	Mean (std. dev.)	Median	Mean (std. dev.)	Median
Mortgage debt						
Mortgage debt	64	25.0	$ 18,968 (43,174)	$ 0	$ 71,797 (57,260)	$ 61,750
Home equity debt	6	2.3	380 (3,856)	0	15,321 (21,022)	7,500
Consumer debt						
Outstanding bills	70	27.3	369 (1,242)	0	1,274 (2,054)	508
Credit card debt	152	59.4	1,341 (2,277)	400	2,134 (2,563)	1,250
Charge account debt	48	18.8	112 (430)	0	565 (829)	247
Installment debt	50	19.5	908 (3,124)	0	4,384 (5,696)	2,000
Automobile debt	131	51.2	4,682 (7,005)	600	8,648 (7,511)	7,000
Other debt*	81	31.6	3,482 (19,463)	0	10,343 (32,696)	2,500

* Other debt includes educational debt, medical debt, and debt to family and friends.

model was derived for each measure of debt risk, including those variables that were significant at $p < .10$ or better (because of a wish to reduce Type II errors). The results presented include only those predictor variables.

Results

Newlywed couples varied substantially in their debt portfolios (Table 1). The types of debt held by the largest proportions of newlywed couples were credit card debt and automobile debt, each of which was held by a majority of the couples. About one-third of couples had some amount of other debt and about one quarter of couples had some outstanding bills and held a mortgage.

Fewer than one-fifth had charge account debt outstanding and any installment debt. Very few couples had home equity debt. For each type of debt, there were some families who had very large amounts of debt outstanding, resulting in mean values that were higher than the medians in each case except home equity debt. Among the types of consumer debt, the highest levels of debt were reported for automobile debt, other debt, and installment debt. Although the highest percentage of families reported that they had credit card debt, the median outstanding balance due on their cards was $1250.

Table 2 shows the continuous versions of the debt risk variables. The debt/asset ratio shows that about 10% of the couples had no debt at all and approximately another 20% had very little debt relative to their assets (a solvency ratio of < .10). At the other extreme, 57 couples or 23.5% of the sample had a debt/asset ratio of .70 or greater. The median of .35 indicates that the typical newlywed couple was in average shape in terms of their debt/asset ratio. Data on couples' liquidity ratio reveals that over one-fourth of newlywed couples had less than

Table 2
Ratio measures of newlywed couples' debt

Characteristic			f	%[a]
Debt/asset ratio (n=241)				
0			24	9.5
.001 - .09			44	19.0
.10 - .29			38	15.7
.30 - .49			41	16.9
.50 - .69			37	15.3
.70 - .99			32	13.2
1.00+			25	10.3
Mean = .48	S.D. = .57	Min. = 0	Max. = 4.71	
25th percentile = .07	Median = .35		75th percentile = .67	
Liquidity ratio (n=242)				
0			6	2.5
.01 - .49			60	24.8
.50 - .99			21	8.7
1.00 - 1.99			78	32.2
2.00 - 3.99			23	9.5
4.00 +			54	22.3
Mean = 3.48	S.D. = 5.56	Min. = 0.0	Max. = 20.0	
25th percentile = .42	Median = 1.00		75th percentile = 3.40	
Debt repayment ratio (n=242)				
0			28	11.8
.01 - .09			60	25.3
.10 - .19			66	27.9
.20 - .39			58	24.5
.40 - .59			14	5.9
.60 +			11	4.6
Mean = .19	S.D. = .24	Min. = 0.0	Max = 2.16	
25th percentile = .06	Median = .14		75th percentile = .23	

[a] Percentages may not add to 100.0 because of rounding

six months' worth of current debt coverage available in liquid assets (a ratio of < .50). Another 8.7% had average liquidity ratios of between six months' and one year's worth of debt coverage. The couples (about 64%) had good liquidity. About one-fourth of couples had a debt repayment ratio between .20 and .39, a dangerous level of debt repayment. About another one-tenth of the couples had very high levels of debt repayment. The median debt repayment ratio of .14 indicates that the typical newlywed couple used about 14% of their net income to repay old debt.

Table 3 shows the discriminant analysis for risk of insolvency. Three types of debts—charge account debt, automobile debt, and other debt—discriminated between those at risk and those not at risk. Having other debt was particularly important in distinguishing between the risk groups. Twice as many couples in the at risk group had some amount of other debt as did couples not at risk. Two measures of need to borrow also were significant in the final analysis--income adequacy and income certainty. Couples at risk for insolvency reported that their incomes were less adequate and less certain than did other couples. Two attitudinal measures also differentiated between the groups. Couples at risk had attitudes less accepting of the need for future planning and felt less in control of their lives than did couples not at risk. The percentage of couples correctly classified by the discriminant analysis was 72.4%, substantially better than classification by chance.

The results of the discriminant analysis for the liquidity risk were different (not shown here because of space). Five types of debt--bills, credit card debt, charge account debt, installment and mortgage debt, differentiate between those at risk of illiquidity from those not at risk. Particularly large are the differences in the proportion of couples who have bills outstanding (44% of at risk couples vs. only 21% of couples not at risk) and those with installment debt (39% in the at risk group vs. 10% of other couples). Again, spouses' subjective income adequacy also differentiated the at risk group from their peers. Two measures of ability to obtain credit, gross income and number of sources of income,

Table 3

Discriminant analysis of debt/asset risk of newlywed couples

	At risk (n=52)	Not at risk (n=162)	F-value
Need			
Income adequacy	3.21	3.62	7.92 **
Income certainty	3.85	4.13	2.83 *
Willingness			
Attitudes toward planning	12.58	13.02	2.61 *
Feelings of control	11.00	10.14	3.72 *
Debt portfolio			
Has charge account debt(s)	.33	.17	6.31 **
Has auto debt(s)	.73	.49	9.73 **
Has other debt(s)	.54	.26	14.77 ***
Wilks' lambda = .74			
F-value = 2.53 ***			
Percent classified by discriminant function as:			
At risk -- number	37	44	
Percent	71.1	27.2	
Not at risk -- number	15	118	
Percent	28.9	72.8	
Overall hit ratio = 72.4%			

* p < .05 ** p < .01 *** p < .001 * p < .10

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also were significant. Couples at risk for illiquidity had lower average incomes by almost $7000 and had fewer sources of income, as compared to couples with good liquidity. Attitudes toward credit and feelings of control also significantly distinguished between the groups. Couples at risk had more liberal attitudes about using credit and felt less in control of their lives than their peers with better liquidity. The hit ratio of 78.1% is the best classification success of any of the three analyses.

The analysis for the newlyweds' debt repayment risk revealed different results (not shown here because of space). Two types of debt—automobile and other debt—were significantly related to membership in the at risk group. Other debt includes medical debt, educational debt, and debt owed to family and friends. Twice as many couples in the at risk group (54%) have this type of debt as in the group not at risk (26%). Only the traditional measures of credit worthiness were among the significant covariates in this analysis. Newlywed couples whose debt repayment risk was high were younger with lower incomes, had fewer sources of income and included husbands who were less likely to have had any financial management training. This analysis correctly classified 68.2% of couples into their risk group.

Summary

The typical newlywed couple in this sample did not begin their married life with a clean debt slate. Around 90% of newlywed couples had at least one type of debt: fewer that one in ten couples was completely debt-free. Nor arenewlyweds, while homogeneous in terms of stage in the family life cycle, homogeneous with respect to their debt portfolios. While almost three-fifths had some credit card debt (the most prevalent type of debt), fewer than 3% had home equity debt and fewer than one-fifth had charge account debt and installment debt.

Three debt ratios--a solvency ratio, a liquidity ratio, and a debt repayment burden ratio--measured the debt risk of newlywed couples. While the typical newlywed couple is in a relatively safe position, there is a group of newlywed couples who are clearly at risk for debt trouble. Depending on the measure of debt risk used, either 23.5% (solvency ratio), 35% (debt repayment ratio), or 36% (liquidity ratio) of newlywed couples probably experience debt difficulty.

The types of debt differentiate between couples grouped according to risk of debt difficulty, particularly charge account debt, auto debt, and other debt (including medical and education debt and money owed to family and friends). With other factors controlled, each of these types of debt significantly discriminate between at risk couples and other couples on two of the measures of debt risk. Having credit card debt predicts only liquidity risk. Some of the popular indictment of credit cards as a significant contributor to debt difficulty of families may be overstated, at least insofar as Georgia newlywed couples are concerned.

Traditional measures of ability to acquire credit, such as age and income, were significantly related only to liquidity risk and debt repayment risk. Younger and lower income couples with fewer sources of income were at greater risk for debt difficulty than their newlywed counterparts. Indicators of willingness to acquire credit, such as attitudes toward credit, attitudes toward planning, and feelings of control, were significantly related only to solvency and liquidity risk. Couples at risk for illiquidity had more liberal attitudes toward credit and felt less in control of their lives than their counterparts. Couples at risk for insolvency felt that planning for the future was less needed and effective and felt less in control of their lives than their counterparts with low debt/asset ratios.

Knowing more about the types of debt that could lead to debt difficulties of families is important for both consumers and credit grantors. In a study of the causes of bankruptcy, Sullivan, Warren & Westbrook (1989) suggested that one of the root causes of consumer bankruptcies was "the irresponsibility of particular debtor-credit dyads" in obtaining, on the one hand, and being willing to grant, on the other, too much debt of certain types (p. 332). If more research on this issue replicates and extends the findings of this study, and if such findings can be disseminated both to consumers and to creditors, perhaps both parts of the dyad can become more responsible.

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Endnote

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Determinants of Bank and Retail Credit Card Use

Data from the 1989 Survey of Consumer Finances were analyzed to find factors related to credit card use. The findings from logistic regression show that a positive attitude toward credit, a professional or managerial occupation, and home ownership were positively associated with the likelihood of using both types of cards after controlling for other socioeconomic factors. With only one exception, retail card use, the attitude variable was significantly related to credit card use. The findings provide useful information to educators and counselors who develop credit education programs and work with households on debt problems.

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Introduction

Over the past three decades the credit card has become an important financial tool for the majority of American families. Today, approximately 70% of all U.S. households have at least one credit card, up from 50% in 1970 (Canner & Luckett, 1992). Although 75% of card-holding families have at least two credit cards, the average number of credit cards held by all card-holding families is six (Kennickell, 1992). Not only has the probability of holding credit cards increased, but the type of credit cards held by American families has also changed during the last twenty years. Between 1977 and 1989, the proportion of families holding a bank card had increased from 38% to 54% while the holding of retail credit cards has stayed around 54% since 1977 (Canner & Luckett, 1992). At the same time, the popularity of gasoline and specialty cards has declined (Calem, 1992).

The growth of consumer acceptance of credit cards has been accelerated by several factors. The lower standard of eligibility for ownership offered by retailers has been an important factor (Canner & Luckett, 1992). At the same time, aggressive marketing strategies have increased consumers' acceptance of and willingness to pay interest. Benefits which have been marketed include the convenience of smaller payments, flexible repayment terms, and interest free periods (Luckett & August, 1985). In addition to these conveniences, the growing acceptance of bank cards without surcharges by local stores is another reason for the popularity of bank credit cards (Yeo, 1990).

Although household debt grew substantially during the 1980s, it was credit card debt and automobile loans in particular that increased over this period (Kennickell & Shack-Marquez, 1992). For all income and demographic groups, the median payment-to-income ratio (not including mortgages) shifted upward between 1983 and 1989.

Purpose of the Study

Increased knowledge of credit card use could serve as a foundation for the development of credit education programs. Therefore, the first objective of this study was to profile users and non-users of credit cards. The second objective was to determine factors related to the use of specific types of cards. An understanding of the gender, age, education, race, income, and debt of bank and retail card users can assist financial counselors and educators in explaining the marketing strategies used to attract clientele.

Background

Credit Card Use

Numerous studies on credit card use have shown that income is an important factor (Canner, 1988; Danes & Hira, 1990; Heck 1987; Hirschman & Goldstucker, 1978; Johnson, 1979; Martell & Fitts, 1981; Wasberg, Hira & Fanslow, 1992). Previous research has shown a negative relationship between age and credit card use (Awh & Waters, 1974; Danes & Hira, 1990; Garcia, 1980; Hirschman & Goldstucker, 1978; Johnson, 1979; White, 1975).

Researchers have found a positive relationship between education and credit card use (Adcock, Hirschman & Goldstucker, 1977; Awh & Waters, 1974; Canner, 1988; Danes & Hira, 1990; Garcia, 1980; Johnson, 1979; Lindley, Rudolph & Selby, 1989; Plummer, 1971). In a descriptive study focusing on

changes within the credit card market, Canner (1988) found that the amount charged each month by both revolvers and convenience users increased as education increased. Danes and Hira (1990) indicated that education was one of the key determinants of knowledge about consumer credit and credit cards. Moreover, they concluded that those respondents with a high level of knowledge about credit cards tended to use credit cards for installment reasons.

Respondents with more favorable attitudes toward credit tend to use cards more than those with less favorable attitudes toward credit (Awh & Waters, 1974; Heck, 1987; Mathews & Slocum, 1969; Shay, 1971). Awh and Waters (1974) theorized that attitude toward a credit card was the most important predictor in differentiating active from inactive card holders. Heck (1987) showed that a negative attitude toward credit had negative effects on the use of all credit cards except retail store cards.

The relationship between gender and credit card use is not clearly shown by previous research (Adcock et al., 1977; Heck, 1987; Lindley et al., 1989; White, 1975). White (1975) found that single males were more likely to use credit cards; Adcock et al. (1977) found that bank card users were more likely to be male than non-users. However, Heck (1987) found that households with male heads were positively related to the probability of using special credit cards, but they were negatively associated with the rate of usage of retail cards. Lindley et al. (1989) found a positive relationship between female respondents and usage of credit cards for the purchase of household goods and clothing.

Studies examining the relationship between credit behavior and race have provided inconsistent results. Lindley et al. (1989) indicated that whites were more likely to use credit cards as payment methods in all types of consumer purchases. In contrast, White (1975) found that nonwhites tended to have more credit card debt and were more likely to use credit cards as a means of installment credit. Heck (1987) found conflicting evidence about the interaction between race and alternative credit card payment systems. Heck indicated that being nonwhite was directly associated with usage of retail cards but inversely associated with usage of special account cards.

Research explaining the relationship between occupation and credit card usage has shown that individuals in professional or managerial occupations were more likely to use credit cards. Based on the 1983 Survey of Consumer Finance, Canner and Cyrnak (1985) found that families headed by a person with a professional, technical or managerial occupation were more likely to hold credit cards and use them more frequently.

Lindley et al. (1989) found that homeowners were less likely to use a credit card for purchasing household goods than renters. However, a study by Wasberg et al. (1992) concerning the changes of credit card usage found a positive effect of the homeowner variable on the amount of credit card debt. Two separate regression estimates showed that homeowners were more likely to use credit cards than renters in both 1982 and 1986.

Type of Card Used

A limited amount of research has focused on the characteristics of consumers using specific types of credit cards. Adcock, et al. (1977) concluded that demographic factors had a strong effect on discriminating bank card users from non-users. Hirschman and Goldstucker (1978) found that credit card holder who were "non-users" were more likely to consist of young single households who had retail cards while the "users" were more likely to belong to a higher social class and to earn higher incomes.

Hypotheses

When a household has both retail and bank credit cards, it was assumed that households would choose the type of card which gave them maximum utility. As bank and retail cards provide similar services, it was expected that the preference for a specific card would be derived from different characteristics of consumers. Based on previous research, the following hypotheses were formulated. Income, education, a positive attitude toward credit, being a member of a professional or managerial occupation, and home ownership were expected to be positively related to the probability of using credit cards. Age was expected to be negatively related to the probability of using credit cards. The association between gender and race or ethnic background and use of credit cards was not clear. The lack of previous research on the use of specific types of cards limited the prediction of directional effects.

Methodology

Data

The data were drawn from the 1989 Survey of Consumer Finances (SCF) which was collected by the Survey Research Center at the University of Michigan for the Federal Reserve Board (Kennickell, 1992). About 75 percent of the 3,143 households in the SCF were randomly sampled from the population of the United

States. The remaining households were selected from tax data to insure that the sample included a sufficient number of wealthy households. A weight variable was used to account for the over sampling of wealthy households. The SCF obtained information on assets, liabilities, use of credit cards, and attitude toward credit. Non-response errors were adjusted by multiple imputation of unanswered questions (Kennickell & Shack-Marquez, 1992). Since every missing variable in the 1989 SCF was given five imputations, five complete data sets were created (Kennickell, 1992). A more detailed discussion of imputation is provided in the Appendix. The sample used to analyze the first research question on usage of credit cards consisted of 1,839 households who had both bank and retail credit cards. The second question focused on the difference in usage of bank and retail cards; those who had not used a card during the previous month were deleted.

Method of Analysis

Because the dependent variables were dichotomous in nature, logit analysis was used (Kennedy, 1992). The maximum likelihood method was applied to estimate the coefficient of the explanatory variables for the empirical models and the Chi-square statistic was used to test the marginal effect of each variable for each separate data set (SAS Institute Inc., 1989). Then inferences from each data set were combined using the method suggested by Rubin (1987).

Dependent Variables

The dependent variable for the first question was a binomial variable to predict the probability of using a credit card. If the household had used the credit card at least once during the previous month, the variable was coded as 1, if otherwise, as 0. For the second question, the dependent variable was assigned the value of 1 if the household chose a particular type of card and 0, if otherwise. The probability of using bank cards, retail cards, or both bank and retail cards was examined separately in three logistic equations which included the same independent variables.

Independent Variables

The independent variables which described the household's financial status were pre-tax household income and home ownership. Demographic characteristics included age, education, race, marital status, occupation, and gender of the household head. Since the respondents were not asked about their attitude towards credit card use, the question which asked consumer's attitude towards credit was used under the assumption that a person's attitude does not vary with similar products.

Findings

Characteristics of the Sample

Household heads who used credit cards during the previous month tended to be younger than non-users (47 compared to 51), to have attained more years of education (13.76 compared to 12.51 years), and were more likely to be employed in professional or managerial occupations (34% compared to 19%). Half of the household heads (50.5%) in the user group had a positive attitude toward credit compared to only 34.4% of the non-user group. Those who used credit cards held more cards than non-users. The outstanding credit balance was higher for users than non-users ($582 compared to $49). On average, users had slightly higher incomes than non-users ($53,780 compared to $52,670).

For the second research question, households with no credit card use during the previous month were deleted leaving a sample of 1,225. Of these households, about 13% had only retail card debt, 38% had only bank card debt, and 49% had both bank and retail debt. Descriptive statistics are presented in Table 1.

Heads of households who had used only retail cards tended to be older (the average age was 53); 40% were divorced, single, or widowed, and over a third (35%) were female-headed. Only 21% of the group were employed in managerial or professional occupations. On average, they held 4 retail cards and between 1 and 2 bank cards.

Those household heads who had used only bank cards were less likely to be home owners than only retail card users (66% compared to 75%) and they had less income than those who had used only retail cards ($46,323 compared to $50,020). However, they had twice as much credit card debt outstanding as those who used only retail cards ($418 compared to $189).

When comparing the use of both types of cards to those who used only a retail or bank card, the average income was higher for those who used both types of cards. For the users of both types of cards, the head was more likely to be married and employed in a professional or managerial occupation, and they were more likely to say that the use of credit was good. Users of both types of cards held more bank and retail cards than users of only bank or retail credit cards. In addition, households who used both types of credit cards had four times as much debt outstanding as the retail card users and twice as much as the bank card users.

In summary, those households who had used their credit cards were more likely to be younger, to have more education, a slightly higher level of income, and a more positive attitude toward credit than non-users. The household heads who had used both types of credit cards were more likely to be married, male-headed, and employed in a professional or managerial occupation. Also, households who used both types of credit cards had larger amounts of income and outstanding credit card debt than households who had used only one type of credit card.

Determinants of Credit Card Use

The purpose of the first model was to examine the probability of credit card use of all respondents who held credit cards. The logit coefficients are presented in Table 2. Based on the combined results of five data sets, the F-test indicated that the model for credit card use was statistically significant at the 1% level (Rubin, 1987)[3].

The following factors were significantly related to the use of credit cards: education, attitude toward credit, and being a female head of household. Education was positively associated with the probability of credit card use.

Household heads who said that "it is a good idea for people to buy things on credit", were more likely to use credit cards than others. It was expected that households with male heads would be more likely to use credit cards than households with female heads. However, previous studies which found a significant effect for use of credit cards by a male household had focused on the use of bank cards.

Determinants of Type of Card Used

The three empirical equations which examined which type of card was used were each statistically significant at the 0.01 level according to the F-statistic (Rubin, 1987). The logit coefficients for the three equations are presented in Table 3.

Bank Card

When household heads had a positive attitude toward credit, they were less likely to choose only a bank card when making credit card purchases. The finding appears to be reasonable because the positive attitude toward credit may indicate the use of both types of cards. The negative sign of the home ownership variable shows that renters were more likely to use only a bank card when purchasing by credit.

Households who were headed by a male were more likely to use only a bank card. A positive effect for the use of bank cards by male households was previously reported by White (1975). Married households were significantly less likely to use only a bank card. Thus, the results suggest that households headed by a single, divorced or widowed person were more likely to use only bank cards.

Retail Card

Age, gender, and occupation were associated with the probability of using only a retail card. Households who used only retail cards were more likely to be older and to be headed by females. These results are consistent with those reported by Heck (1987). In addition, when household heads were employed in a professional or managerial occupation, those households were less likely to choose only retail cards. As shown in the first model, households who have a head employed in a professional or managerial occupation were more likely to use credit cards than others. Thus, it seems unlikely that heads with professional or managerial occupations would use only a retail card.

Both Types of Credit Cards

As might be expected from analysis of households who used only one type of credit card, having a positive attitude toward credit and being in a professional/managerial occupation had a positive effect on the use of both types of cards. Further, homeowners were more likely to use both types of cards. This supports the finding that renters were more likely to use only a bank card.

Finally, heads with a racial background other than white were more likely to use both types of credit cards rather than one type of credit card. This result is consistent with White's (1975) finding that being non-white had a positive effect on the usage of credit cards. White theorized that non-whites may find it more difficult to get merchants to accept their checks than whites and, thus, they would be more likely to use credit cards which had been pre-approved.

In summary, factors which were related to the use of only bank cards included renting, having a male head of household, and a negative attitude toward the use of credit. Factors which were related to the probability of using only retail cards were being female-headed, being older, and blue collar occupations. Factors associated with the use of both types of cards were a positive attitude toward credit, a professional or managerial occupation, and home ownership. Ethnicity or race other than white was associated with the use of both types of credit cards.

Table 1
Sample Characteristics for Type of Card Used

Variables	Bank Card	Retail Card	Both Types
Income ($)	46,323	50,020	61,237
Credit Card Debt ($)	417	189	820
Home ownership (%)	66	75	76
White (%)	87	89	84
Married (%)	64	61	71
Male-headed (%)	79	65	81
Age of Head (years)	46	53	47
Education (years)	14	13	14
Professional (%)	33	21	37
Positive Attitude (%)	47	49	54
Number Bank Cards	2.0	1.6	2.1
Number Retail Cards	3.2	3.9	4.6

Table 2
Logistic Regression Results for Probability of Credit Card Use

Variables	Coef.	SE	F Value
Intercept	0.2229	0.3240	0.1534
Income	4.81E-6	2.98E-11	0.7793
Home ownership	-0.0543	0.0342	0.0863
White	-0.0533	0.0516	0.0550
Male-headed	-0.4388*	0.0514	3.7495
Age of Head	-0.0064	0.0000	1.3796
Education of Head	0.1229***	0.0010	15.1795
Professional	0.3316	0.0492	0.2375
Attitude	0.7678***	0.0274	21.5447

*p <.05 **p < .01 ***p <.001

Table 3
Logistic Regression Coefficients for Probability of Type of Credit Card Used

Variables	Bank Card	Retail Card	Both Types
Intercept	-0.2826	-1.7040**	-0.4525
Income	-2.28E-6	-6.86E-7	1.50E-6
Home ownership	-0.3741***	0.1247	0.3330**
White	0.2703	0.2984	-0.3645**
Male-headed	0.4706**	-1.1334***	-0.0077
Age of Head	-0.0046	0.0138**	-0.0026
Education of Head	0.0142	-0.0469	0.0117
Professional	-0.0707	-0.4524*	0.2566*
Married	-0.3754*	0.6033	0.2336
Attitude	-0.2596**	-0.0504	0.2713**

*p <.05 **p < .01 ***p <.001

Discussion

Implications for Future Research

Data collected specifically to answer the difference in gender usage of credit cards would provide more information. The effect of attitude toward credit was measured by a general perception toward the use of credit. Researchers may want to include questions which are more specifically focused on attitude toward the use of credit cards. This should provide useful information for educators, lenders, and others who are interested in the use of credit cards.

Implications for Education

With only one exception, retail card usage, the attitude variable was significantly related to credit card use. This finding provides useful information to educators who develop and present credit education programs and for counselors who work with households on debt problems. The attitude held by consumers toward credit needs to be explored. A positive attitude toward credit may mean that the consumer believes it to be a convenient and safe means of payment. But for others, a positive attitude toward credit may lead to problems such as excessive debt and the inability to make prompt repayment. Awareness of the significance of attitude toward credit could prompt educators and financial counselors to work with clients to identify their beliefs about credit. It could be necessary to consider a change in attitude if the consumer has problems with the management of debt. It could be possible for consumers who have debt problems to improve their cash flow and the potential for savings for present and future needs.

Educators and counselors should explain to clients the financial and demographic characteristics which are associated with usage of credit and the different types of credit cards. This knowledge and awareness should help consumers to relate their own characteristics to credit card use. An analysis such as this or a case study approach profiling a typical credit card user should help consumers gain insight into their credit card usage. Furthermore, a better understanding of gender differences in payment behavior should be helpful to educators and financial counselors as they work with families to prepare budgets and manage debt. The issue of whether purchases using credit cards are done for convenience or to revolve the debt could be another topic for discussion.

Knowledge of the characteristics of bank and retail card users should be helpful in understanding how marketing strategies are designed to promote the use of credit. Finally, insight into consumer behavior in credit card usage provides relevant information to policy makers in establishing regulations in the credit card market.

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Endnotes

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3. Because the Survey of Consumer Finances was coded using multiple imputed values for the variables, it was necessary to analyze each of the five data sets using logistic regression and then to combine the inferences from each regression analysis using the method suggested by Rubin (1987, pp. 75-81). It is not appropriate to provide a measure of estimated variance such as a pseudo R^2 because the results of the logistic regression of each of the five imputed data sets are merged to provide the final result.

Households Showing Financial Characteristics of Potential Bankrupts

Debt burden was concluded to be a major determinant of personal bankruptcy according to previous studies. In this study, nonmortgage debt burden and unsecured debt burden were used to identify households which showed debt characteristics similar to those of households potentially at risk of bankruptcy in the 1989 Survey of Consumer Finance. The findings showed that the target households were on average younger and more educated than others. Also, they had more assets, more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden.

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Introduction

The number of bankruptcies filed by nonbusiness petitioners increased by 300 percent between 1981 and 1992. In 1992, 899,840 personal bankruptcy proceedings were initiated, which constituted 92 percent of all filings (U.S. Bureau of Census, 1993).

Costs related to nonbusiness bankruptcy are quite considerable. In addition to the out-of-pocket costs, such as attorney's fees and filing fees, the personal costs may include divorce, personal stress, health problems, and loss of job. The social costs are also substantial. They include billions of dollars of loss for lenders per year, higher finance fees to other credit users, and restrictions on the availability of credit. The cost of social inefficiency due to bankruptcy may be as high as $800 million to $1.1 billion annually (Sullivan & Drecnik, 1984). Increasing personal bankruptcy rates pose a threat to the stability of the economy according to White (1980) and Bernanke (1981).

Several studies have been carried out in an effort to identify the determinants of personal bankruptcy. The main conclusion reached by the studies is that bankruptcy is positively related to the debt to income ratio, here termed debt burdens (Apilado, Dauten, & Smith, 1978; Domowitz & Sartain, 1992; Luckett, 1988; Shepard, 1984a & 1984b; Sullivan, Warren, & Westbrook, 1989). Due to recent rapid growth in the availability of consumer credit and consumers' willingness to incur debt, the debt of households has grown significantly relative to income. It is expected that overall household borrowing will keep growing substantially (Bloom & Steen, 1987). As Domowitz and Sartain (1992) put it: "The relationship between debt and income is the most critical item in considering financial condition" (p.7).

After reviewing the literature on the causes and effects of personal bankruptcy, Luckett (1987) said that when debt burden exceeded a "threshold" level there was a substantial effect on personal bankruptcy. He also stated, "The examination of bankruptcy at the individual case level has been almost entirely limited to cataloging the observed characteristics of bankruptcy petitioners" (Luckett, 1987, p.51). He suggested that it was necessary to group debtors by characteristics and to compare people who were bankrupt with people who were not.

Accordingly, the purpose of this study is to use debt burden to identify households that have the potential for bankruptcy in the 1989 Survey of Consumer Finance (SCF). Descriptive and cross-tabulation analysis are used to compare the financial and social demographic characteristics of target households with a representative sample of U.S. households.

Review of Literature

Consumer Debt Burden and Personal Bankruptcy

Studying the economic impact of consumer credit expansion, Yeager (1974) developed a bankruptcy growth model to examine longitudinal data through 1950 to 1972 and found a strong relationship between greater consumer debt burden and higher frequency of personal bankruptcy. According to the results, he claimed that there was a "saturation point" of consumer credit burden.

Apilado, Dauten, and Smith (1978) used personal bankruptcy data by states for the years 1962 to 1974 to examine the factors which were associated with personal bankruptcies. They concluded that there was a close connection between the increase of debt burden and the increase of the bankruptcy rate.

Shepard (1984a) used ordinary least squares to estimate a model of the theoretical determinants of

bankruptcy, using U.S. data from 1948 to 1981. The annual incidence of Chapter 7 and Chapter 13 bankruptcy were the dependent variables. He found that the ratio of consumer installment and noninstallment credit to personal disposable income were positively related to personal bankruptcy. The same result was exhibited in another study by the same author (1984b) to assess the influence of the Bankruptcy Reform Act of 1978.

The number of people with large credit burden increased significantly from 1983 to 1986. Comparing financial ratios between 1983 with 1986, DeVaney (1993) found that people's financial status got worse because more people had incurred higher debt burdens. Luckett (1988) interpreted increasing debt burden as a sign that the potential for personal bankruptcy had increased.

Domowitz and Sartain (1992) hypothesized that bankrupt households had large debt to income ratios relative to the rest of the population. They also found that debt burden was highly associated with consumer bankruptcy. Two major debts associated with personal bankruptcy were unsecured credit card debt and secured debt issued by banks and financial companies.

Socio-Economic Characteristics and Personal Bankruptcy

Using the 1983 Survey of Consumer Finance, Bloom and Steen (1987) showed that younger households and more educated households were more likely to incur debts. Shepard found that petitioners for bankruptcy are more apt to be unemployed, recently divorced, members of racial minorities and heavy users of credit than nonpetitioners (1984a). Comparing with other Americans, Sullivan, Warren and Westbrook (1989) described bankrupt debtors to have lower incomes, higher debts, larger debt burdens, and fewer assets. Also, they were more likely to be unemployed.

Lea, Webley, and Levine (1993) collected data from nine county areas on selected economic, sociological and psychological variables, in order to predict indebtedness. They found that social and psychological factors, such as marital status, housing status, number of family friends in debt, and reactions of friends/family to debt were related to debt, and that serious debtors had lower income.

Using the United States General Accounting Office 695 bankrupt cases and 1983 Survey of Consumer Finances, Domowitz and Sartain (1992) concluded that bankrupt households had lower incomes, higher total debt, higher unsecured debt, higher secured debt, and much lower asset levels than the general population. They also found that unemployment or income disruption was not the primary reason for filing bankruptcy. Marriage was apt to reduce the possibility of filing bankruptcy. Also they identified debt to assets ratio as another important factor associated with consumer bankruptcy.

Domowitz and Sartain (1992) isolated potential bankrupt households using the Survey of Consumer Finances (SCF). They used the 1983 sample to estimate the effects leading to an increased probability of filing for bankruptcy. Removing 19 households with high student loan debt of 31 potentially bankrupt households, 12 bankrupt households resulted. It is the object of this study to use a similar methodology to identify households potentially at risk of bankruptcy from 1989 data.

Analysis

Identifying Potentially Bankrupt Households

This study uses the 1989 Survey of Consumer Finance data to assess the proportion of households showing the characteristics of potential bankrupts, and then examines their financial and social demographic characteristics. According to two previous studies, two critical "risk" levels of debt burden are selected. The first risk level is based on Sullivan, Warren, and Westbrook's (SWW) Consumer Bankruptcy Project (1989). This project included 1529 bankruptcy cases filed in 1981. The mean of total nonmortgage debt to total income ratio for the Chapter 13 bankrupt sample was 1.38. The ratio for the Chapter 7 bankrupt sample was 2.33.

The second risk level is from Domowitz and Sartain's (DS) study (1992) which found the average unsecured debt to total income ratio in Chapter 7 bankruptcy sample was 0.9 by using a random sample of 695 Chapter 7 bankruptcy cases interviewed by the United States General Accounting Office in the second and third quarters of 1980.

Methodology

To understand the difference of financial and socio-economic characteristics between consumers who were at risk of bankruptcy and who were not, it is important to begin at a descriptive level. This study used sample weights because of oversampling of wealthier families in 1989 SCF data.

Financial characteristics included total income, total assets, total debt, nonmortgage debt, unsecured debt, credit card debt, nonmortgage debt to total income ratio, unsecured debt to total income ratio, credit card debt to total income ratio, and total debts to total assets ratio. Social demographic characteristics included age, education, marital status, and employment status. Two categories were used for marital status: married, and divorced and separated. Employed and unemployed were the two groups of employment status. Weighted means of all financial characteristics, age, and education were

reported.

Total incomes which were equal to or less than zero were excluded. After dropping those zero and negative income households, there were insufficient observations to separate race as a social demographic characteristic in this study.

Since the student loan is not dischargeable through bankruptcy, households with high student loan debt were also excluded from the target households.

Results

Applying the above criteria, a sample size of 31 households was at SWW risk of Chapter 13 bankruptcy and 30 households were at SWW risk of both Chapter 13 and Chapter 7 bankruptcy. There were 21 households at DS risk of Chapter 7 bankruptcy. A total of 6 households in the SCF sample exceeded both the SWW "risk" level and the DS "risk" level.

Table 1 shows the financial characteristics of households at SWW risk of bankruptcy. Compared to other households, households at risk of both Chapter 13 and Chapter 7 bankruptcy had lower incomes, higher levels of assets, higher levels of total debts, higher nonmortgage debt, higher unsecured debt, higher credit card debt, higher unsecured debt burden, higher credit card debt burden, higher debts to assets ratio, and much higher nonmortgage debt burden. Households at risk of Chapter 13 bankruptcy had lower incomes, higher levels of assets, higher levels of total debts, higher nonmortgage debt, higher unsecured debt, less credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, higher credit card debt burden, and lower debts to assets ratio. Therefore, the results of credit card debt and total debts to assets ratio were mixed.

Table 1
1989 Mean Financial Characteristics of People at SWW Risk of Bankruptcy

	No Risk	13	13 & 7
N	2,473	31	30
Total Income	38,756	20,179	37,689
Total Asset	263,727	296,256	1,029,029
Total Debt	42,214	75,673	347,232
Nonmortgage Debt	5,913	35,282	145,833
Unsecured Debt	1,563	9,762	58,981
Credit Card debt	748	258	1,427
Nonmortgage Debt /Total Income	0.172	1.850	3.991
Unsecured Debt /Total Income	0.037	0.298	0.906
Credit Card Debt /Total Income	0.023	0.038	0.069
Total Debt /Total Asset	2.797	1.751	3.568

From Table 2, compared to other households, households at DS risk of bankruptcy had higher income, higher assets, higher total debts, much higher nonmortgage debt, much higher unsecured debt, higher credit card debt, much higher nonmortgage debt burden, and much higher unsecured debt burden, higher credit card debt burden and much lower debt to asset ratio.

Table 2
1989 Mean Financial Characteristics of People at DS Risk of Bankruptcy

	No Risk	Chapter 7
N	2,513	21
Total Income	38,485	51,725
Total Asset	267,844	907,827
Total Debt	44,384	246,169
Nonmortgage Debt	6,919	118,987
Unsecured Debt	1,501	117,542
Credit Card debt	746	1,407
Nonmortgage Debt /Total Income	0.215	2.075
Unsecured Debt /Total Income	0.036	2.003
Credit Card Debt /Total Income	0.024	0.036
Total Debt /Total Asset	2.811	0.332

Table 3 shows the financial difference between households who exceeded both SWW and DS risk levels and those who did not. Potential bankrupt households had higher income, much more assets, much more total debt, much more nonmortgage debt, much more unsecured debt, more credit card debt, much higher nonmortgage debt burden, much higher unsecured debt burden, higher credit card debt burden, but much lower total debts to total assets ratio.

Table 3
1989 Mean Financial Characteristics of People at SWW & DS Risk of Bankruptcy

	No risk	Bankrupt
N	2,528	6
Total Income	38,475	68,995
Total Asset	268,245	1,446,539
Total Debt	44,535	408,067
Nonmortgage Debt	7,054	192,395
Unsecured Debt	1,648	191,213
Credit Card debt	745	2,331
Nonmortgage Debt /Total Income	0.219	2.839
Unsecured Debt /Total Income	0.040	2.755
Credit Card Debt /Total Income	0.024	0.058
Total Debt /Total Asset	2.802	0.356

Tables 4, 5, and 6 show the mean, and frequency of selected socio demographic characteristics. From Table 4, households at SWW risk of bankruptcy were younger and had higher education than other households. From Table 5, households at DS risk of bankruptcy were slightly older and more educated. From Table 6, households at both SWW and DS risk levels of bankruptcy were younger and more educated. In regard to the marital and employment status, since the sample size is small, the p-value of Chi-Square test might not be conclusive. Nevertheless, it appears that there is no strong, significant relationship between marital or employment status and potential personal bankruptcy.

Table 4
1989 Socio-Economic Characteristics of People at SWW Risk of Bankruptcy

	No Risk	13	13 & 7
N	2473	30	31
Age			
Mean	48.4	45.3	39.8
Median	50	51	46
Years of Education			
Mean	12.6	13.8	13.4
Median	14	14	16
Married	1763	21	21
Divorced & separated	289	6	3
(Chi-Square P-value=0.471)			
Employed	1887	26	24
Unemployed	586	5	6
(Chi-Square P-value=0.552)			

Table 5
1989 Socio-Economic Characteristics of People at DS Risk of Bankruptcy

	No Risk	Chapter 7
N	2513	21
Age		
mean	48.3	48.9
median	50	55
Years of Education		
mean	12.7	13.4
median	14	14
Married	1790	15
Divorced & Separated	294	4
(Chi-Square P-value=0.388)		
Employed	920	17
Unemployed	593	4
(Chi-Square P-value=0.625)		

Table 6
1989 Socio-Economic Characteristics of People at SWW & DS Risk of Bankruptcy

	No risk	Bankrupt
N	2528	6
Age		
mean	48.3	45.9
median	50	62
Years of Education		
mean	12.7	13.9
median	14	15
Married	1800	5
Divorced & Separated	298	0
(Chi-Square P-value=0.363)		
Employed	1934	3
Unemployed	594	3
(Chi-Square P-value=0.127)		

Discussion

Based on the descriptive analysis of the financial ratios of the 1989 SCF, the high debt to income ratio cast some doubt on Yeager's 19 percent "saturation point".

From Tables 1, 2, and 3, income is the major difference in financial characteristics between SWW risk of bankruptcy and DS risk of bankruptcy. The lower incomes of households at SWW risk of bankruptcy was consistent with previous studies. But households at DS risk of bankruptcy had higher income than those who were not.

Surprisingly, while households at risk of bankruptcy had higher total debt, they also had much higher levels of total assets. One suggestion is that consumers incurred more debt to purchase assets. This finding also supports the theory that the "shift to asset ownership" was one of the major reasons for growth of consumer credit (U.S. National Commission on Consumer Finance, 1972).

Households potentially at risk of bankruptcy had much lower debt to asset ratios than others. This apparently paradoxical observation did not reflect Domowitz and Sartain's argument that the debt to assets ratio was an important factor in filing bankruptcy. The key here is that the current paper examines potential bankruptcy based on characteristics of known bankrupts. The situation of known bankrupts is similar to this group in that both are heavily involved in high debt and high asset management. They are high risk situations; if the income earning does not adequately support such affairs, disaster results.

Domowitz and Sartain (1992) stated, "An increase in credit card debt relative to income is one of the strongest contributors to the probability of filing for bankruptcy on the margin" (p.16). This study showed that credit card debt and credit card debt burden of potentially bankrupt households was higher than the general population. Further studies are recommended to further probe Domowitz and Sartain's conclusion.

Using 1983 SCF, Jappelli (1990) concluded that the older group was less credit constrained than young consumers. The results of this study were consistent with Jappelli's finding.

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This study found 12 out of 30 households at SWW risk of bankruptcy, 10 out of 21 households at DS risk of bankruptcy, and 4 out of 6 households at both of SWW and DS risk levels were possibly using debt for investment. This showed that poor debt management might be a major concern for personal bankruptcy. There is precedent for these findings. Except for credit card loans and first mortgages, 20 percent of 1989 SCF debt was associated with investment (Kennickell & Shack-Marquez, 1992). Stanley and Girth (1971) in their microeconomic study tried to identify the 'underlying' and the 'immediate' causes of personal bankruptcy. Poor debt management accounted for 31 percent and 20 percent for 'underlying' and 'immediate' causes respectively.

Conclusion and Implications

The purpose of this study was to compare the financial and socio-demographic characteristics of households potentially at risk of bankruptcy with those who were not. The 1989 Survey of Consumer Finances was used. Two "risk" levels of bankruptcy were selected. One was based on Sullivan, Warren, and Westbrook's study. The other one was based on Domowitz and Sartain's study.

Since the sample size of potential bankrupt households in the SCF sample was small, advanced multivariate analysis could not be applied at this stage, and findings are based on descriptive statistics. The findings showed that households similar to those at potential risk of bankruptcy were younger, and more educated than others. They had more assets, more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden. And they had lower total debts to total assets ratio. The evidence on income of households similar to those at risk of SWW risk of bankruptcy is inconclusive.

Investment was apparently the primary purpose to incur debt for households at risk of bankruptcy. This finding is consistent with past studies that households at risk of bankruptcy were younger, more educated, and had more total debt, more nonmortgage debt, more unsecured debt, more credit card debt, higher nonmortgage debt burden, higher unsecured debt burden, and higher credit card debt burden. However, some findings of this study were not consistent with previous studies. The different findings of this study were that target households had more assets, and lower debt to assets ratio.

Households potentially at risk of bankruptcy are more highly educated than those who are not. Though this study does not deal with actual bankrupts, it is possible that because the more educated have more information about bankruptcy, they may seek to file bankruptcy as a way of releasing them from their financial problems. This implication should be interesting to consumer educators.

Johnson (1989) stated, "Economists have not been notably successful in identifying economic indicators that are rationally and closely associated with shifts in bankruptcy rates over time." (p.41). The impact of debt burden on personal bankruptcy has been a staple of the last ten years. Analysis of debt to income ratio not only enables creditors to identify borrowers at financial risk and to minimize their potential loss (Shepard, 1984a), but also helps credit users to check their own financial status. However, there are limitations on the use of debt burden (Luckett & August, 1985). The major limitations are a lack of information on the debt distribution among households, a misleading measure of debt burden because of no repayment information available, and incomplete coverage of household debt. This study raises questions about debt burden as a measure of risk. At the very least, it poses the problem, what kind of debt burden is the best indicator of potential bankruptcy? And what is the asset portion of the households concerned? These will be interesting questions for future study.

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Endnotes

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Trends in Environmental Marketing Claims Since the FTC Guides: Two-Year Auditing Results

As a result of increased use and occasional misuse of environmental marketing claims, the Federal Trade Commission issued guidelines in July 1992 and announced its intention to review these guides three years hence. This paper reports results of an audit of environmental claims conducted biannually in five locations since September 1992. The audit identifies claims found on labels of brands in sixteen supermarket product categories. The audit reveals important differences in claims across time and across and within product classes.

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Introduction

In July 28, 1992, the Federal Trade Commission (FTC) issued Guides for the Use of Environmental Marketing Claims. The Guides were designed to strike a balance between the need to rein in deceptive and trivial environmental claims without unnecessarily discouraging accurate and useful ones. At the time of adopting its environmental marketing guidelines, the FTC announced its intention to seek, after three years, "public comment on whether and how the guides need to be modified in light of ensuing development."

In anticipation of the FTC's intended review of the guides, a research project was undertaken to provide an "after-only" (Phillips and Calder, 1979) evaluation of the guides. This project, conceived as an audit of the frequency and content of environmental claims actually being made by sellers, has involved the collection of data at six-month intervals. This paper reports trends in the use of environmental claims between September, 1992, shortly after issuance of the FTC guides, and September, 1994, shortly before the expected FTC review of the guides.

Previous Research

In July, 1991, the FTC held hearings to determine whether any additional guidance was needed on the applicability of FTC's general policies on deception, advertising substantiation, and unfairness to environmental marketing claims in advertising and on labels. Although numerous parties testified at the two-day hearings, very little empirical research was presented. An exception was a presentation by University of Illinois researcher Brenda Cude (1991, 1993) on the ways in which consumers define and interpret the various terms contained in environmental claims (e.g., ozone friendly, biodegradable, recyclable). During the year between the FTC's hearings and the issuance of the guides, several additional studies were conducted or reported which clarified how consumers interpret environmental claims (AUS Consultants, 1991; COPPE, 1990; Mayer, Scammon, and Zick, 1992).

In addition to research on how consumers interpret the terms used in environmental claims, a few studies focused on the quality and prevalence of environmental claims. One study (Kangun, Carlson, and Grove, 1991; Carlson, Grove, and Kangun, 1993) drew a sample of claims used in magazine advertising and scrutinized the claims for ambiguity, important omissions, and false statements. Another study (Abt, 1993) used nationwide Productscan data on new product introductions to gauge the frequency of various claims on the labels of consumer packaged goods (e.g., foods, health and beauty items, laundry and cleaning products). This study has shown that in both 1992 and 1993, approximately 13% of all new product introductions of packaged goods involved some type of environmental claim (Green MarketAlert 1993). Despite the wide geographical and product class coverage of this study, it uses a broad definition of environmental claims that includes some health claims and energy savings claims, contains no information on the precise wording or placement of claims, contains no data on environmental symbols or certifications, and, of course, is confined to new products (or major product reformulations).

The study reported in this paper builds on the research on the claims themselves, not consumer interpretation of them. It reports the frequency and content of claims on the packages of non-durable consumer goods. The study addresses the quality of environmental claims by analyzing the use of certain suspect terms (e.g., overly broad terms such as "environmentally friendly" or inadequately qualified terms such as "recyclable"), but no attempt is made to test the actual attributes of products (e.g., whether an item claiming to contain 35% post-consumer recycled content actually has that level of content).

Study Design and Data Collection

The study described here involves auditing claims of all brands in sixteen commonly purchased categories of non-durable goods found in supermarkets. Audits were conducted at six month intervals, beginning in September of 1992. The sixteen product categories include aerosol shaving creams, spray and pump deodorants, tampons, laundry detergents, liquid dish detergents, fabric softener, plastic kitchen trash bags, bathroom tissue, AA batteries, disposable diapers, juices, fresh milk, coffee filters, soda bottles, frozen multi-course TV dinners, and cold breakfast cereals. Audits were conducted in one large, high volume supermarket in each of five strategically selected locations: New York City, NY; Champaign-Urbana, IL; Salt Lake City, UT; San Diego, CA; and Corvallis, OR.

A fuller description of the study's methods, strengths, and limitations can be found in Mayer, Scammon, and Gray-Lee (1993). Foremost among the study's strengths are its multiple and strategically selected sites, focus on new and traditional brands, restricted definition of an environmental claim, and high level of detail on each claim. The study's major limitations include an exclusive focus on non-durable consumer goods and its lack of strict generalizability across all non-durable goods and all national market. Furthermore, the study suffers from all the threats to internal validity of an after-only evaluation design, especially the inability to separate the effects of the guides from those of state regulations (Gray-Lee, Scammon, and Mayer, 1994) and case-by-case challenges to claims by regulatory and self-regulatory bodies (Scammon and Mayer, in press).

For each brand within each of the sixteen product classes auditors recorded the presence or absence of explicit or implied environmental claims, the text and placement of the claims, use of associated symbols or seals of approval, the referent of the claim (product, package) and the material to which the claim applied. The claims analyzed were those both general in nature (e.g., "environmentally friendly") and referring to specific brand attributes like recyclability, recycled content, degradability, source reduction, toxicity, and ozone depletion.

Data from the five sites were compiled and transferred to a single data base to allow analysis. Because auditors were instructed to favor detail over classification simplicity, each new wave allowed us to develop an increasingly precise and informative scheme for classifying the full range of claims found. For example, after the first audit the data revealed six different variants of mobiüs loops. These variants were defined and used as codes for future data collection. Subsequent audits revealed two additional variants sufficiently different from the original six to justify receiving their own codes. Thus, the classification scheme used to analyze the data evolved with each wave producing a highly detailed data base of environmental claims for brands within the audit.

The data base now holds, for each brand at a given location and wave, information regarding the presence or absence of a particular claim, whether it refers to the package and/or product, the material to which the claim applies, the specific wording and placement of the claim, the nature of any qualifications, and the type of mobiüs loop or other symbols present (if any). The claims in the data base range from very specific, such as the percentage of post-consumer recycled content, to more general, such as a manufacturer's claim of a long standing commitment to the environment.

Results

To date, five rounds of data have been collected and incorporated into the data base. For ease of presentation, this paper reports the results from the first (autumn 1992), third (autumn 1993), and fifth (autumn 1994) audits.

General Results

Table 1 presents a broad overview of the results. The number of unique brand/category combinations increased by 14.6% (from 349 to 400), primarily due to the introduction of additional types of containers in the laundry detergent category. Yet, the overall rate of brand/category combinations with an environmental claim increased even more rapidly, by 42.6%. Given that some brands made both product and package claims, the overall number of product or package claims increased even faster, by 46.2%. Claims became more prominent as well as more frequent; claims on the front of packages increased by 36.2%. At the very

least then, it appears that the FTC Guides have not had a chilling effect on the propensity of marketers to make environmental claims.

Table 1:
Summary of Audit Results.

	Audit #1 '92	#3 '93	#5 '94
Claims Information			
Brand/Category Combos	349	396	400
Brand/Category Combos with Product or Package Claim	183	241	261
Product Claims	108	150	159
Package Claims	133	170	190
Front of Package Claims	58	73	79
Recycled Content Claims	77	105	117
Recyclability Claims	75	88	94
Source Reduction Claims	24	50	60
Degradability Claims	58	88	99
Toxin Claims	86	121	127
Ozone Claims	11	13	8
General Claims	8	10	15
Brand Name Claims	13	15	14
Certifications/Standards	8	10	10
Company Commitment Claims	8	24	23

Among the various types of claims, the rate of increase was most pronounced for source reduction claims and company commitment claims (e.g., "We care about the environment"). The number of brand name and certification/standard claims (e.g., environmental seals of approval) remained essentially unchanged, while ozone claims were the only category to decline in frequency.

The overall increase in environmental claims masks a variety of patterns within product categories (data not shown). For some categories (plastic kitchen trash bags, disposable diapers, and coffee filters) the audits have revealed reductions in the number of claims. In other categories, the audit reveals little or no change (cold cereals, juices in glass containers, batteries) or increases (laundry detergents, liquid dish soaps, tampons). Several product categories remain almost devoid of claims (TV dinners, fresh milk, juices in aseptic containers), while others abound in them (laundry detergents).

In some product categories the audit reveals extensive variation in the number and types of claims made with a few brands positioning themselves as "the" environmental alternative (plastic trash bags, tampons, bathroom tissue), while in others categories there seems to be little variation in the language used to make claims, suggesting a more defensive, "me-too" orientation (shaving cream products, cold breakfast cereals, plastic soda bottles, glass juice containers).

Specific Types of Claims

With respect to recycled content claims, the most important finding is their increasing specificity (see Table 2). The percentage of claims specifying an exact percentage of recycled content increased from 48.1% (39 of 81) to 82.8% (96 of 116). Moreover, the percentage of claims making reference to a specific percentage of post-consumer content increased from 34.6 to 75.9%. This is especially interesting in light of the fact that the FTC Guides do not require sellers to differentiate pre- and post-consumer recycled content.

Table 2
Recycled Content Claims.

	Audit #1 '92	#3 '93	#5 '94
Claims Information			
Number of Claims	81	109	116
Brand/Categories with Recycled Content Claims	77	105	112
Product Claims	8	11	9
Package Claims	73	98	106
Claims with % Recycled Content	39	72	96
Claims with % Post-Consumer	28	66	88
Claims with Mobius Loop or Other Symbol	56	85	82

The picture of compliance with the FTC Guides is less rosy in the case of recyclability claims (see Table 3). Recyclability claims increased modestly between the first and fifth audit (see table 3). We divided these claims between exhortation (e.g., "please recycle") and information (e.g., "recyclable container"). Virtually all of the increase occurred in the exhortation category, perhaps because telling consumers that they should recycle is less committal than saying they can recycle. Regardless of whether recyclability claims involve exhortation or information, these claims are not well qualified. The FTC guidelines state that "Claims of recyclability should be

Table 3
Recyclability Claims.

	Audit #1 '92	#3 '93	#5 '94
Claims Information			
Number of Claims	75	96	97
Product Claims	1	1	1
Package Claims	74	95	96
Exhortations	45	59	60
Qualified Exhortations	3	6	4
Information	42	47	45
Qualified Information	6	8	5
Exhortation & Info.	17	16	13
Recyclability & Symbol	37	58	66
Symbol Without Text	6	6	5

qualified to the extent necessary to avoid consumer deception about any limited availability of recycling programs and collection sites." The guidelines indicate that recyclability should be qualified unless facilities are available to a "substantial majority of consumers or communities" (a condition that is not met for most materials). Only about 10% of recyclability claims are qualified at all, and most of these qualifications are much weaker than those suggested by the FTC.

Source reduction claims represent a success story in terms of their increased frequency and specificity. The percentage of source reduction with a specific point of reference (e.g., compared to the previous container, conventional containers, or another type of packaging) increased from 12.5% in the first audit to 38.0% in the third audit to 50.0% in the fifth audit. While there is still room for improvement, this represents substantial progress toward the FTC's guideline of qualifying these claims with information "about the amount of the source reduction and about the basis for any comparison asserted."

Degradability claims for plastic products, especially trash bags and shopping bags, were an early concern of regulators, but such claims have virtually disappeared from the marketplace. With only a few exceptions, most degradability claims in our study refer to the biodegradability of detergents and dish soaps. In the fifth audit, only five degradability claims fell outside these two product categories: tampons (5), toilet paper (3), and plastic trash bag (1).

A similar situation exists with respect to toxicity claims. While there are a large number of such claims, the majority refer to the absence of phosphates, phosphorous, bleach, and/or dyes in laundry detergents. There are several other toxicity claims, however, referring to the absence of mercury, cadmium, heavy metals, bleach, chlorine, nitrates, or enzymes and the presence of soy inks and organic ingredients.

Whereas toxicity claims have not been problematic to the various regulators of environmental claims, ozone-related claims have. Perhaps it is not surprising then that ozone claims are small in absolute number and declining. Most of these claims consist of the true but vacuous claim (because they have been banned for more than a decade) of "No CFCs" or "No Chlorofluorocarbons." Two brands of deodorants refer to the fact that their propellants "meet California VOC limits." VOCs refer to volatile organic compounds which, while harmless to the earth's ozone layer, can cause ground-level pollution. This is the only instance in our study where an environmental claim makes explicit reference to a state-level standard. By the same token, there was little evidence that environmental claims vary by geographical location in response to state differences in regulations concerning environmental claims.

General claims such as "environmentally friendly" or "eco-safe" should be avoided or qualified, according to the FTC guidelines. In our study, there was a small but growing number of such claims. Examples included "environmentally friendly," "environmentally safe," "environmentally safer," "environmentally smart," "environmentally sound," "Safe for You and the Environment," "Respect for the Environment," and "Natural Choice." Most of these claims were qualified somewhere on the package, but few of these qualifications were conspicuous or in close proximity to the general claim. Whereas the FTC Guides do not specify the nature of appropriate qualification, it is interesting to note that Norwegian guidelines state that general claims should be accompanied by "explanatory text shall be provided with the [general] words in which the actual benefits to the environment are described." Of course, "in conjunction" is open to various interpretations.

Brand names containing words like "Enviro," "Eco," and "Natural" may be considered general environmental claims, although no mention of such names is made in the FTC guidelines. Most of these names are qualified by an additional, specific environmental claim on the product package, but the question remains of whether such brand names connote general (or lifecycle) environmental superiority. (In the related area of nutrition labeling, the government has set specific rules for the use of terms such as "healthy" in brand names.)

To increase credibility, environmental marketing claims may include a reference to an authoritative body. This body may be governmental, non-profit, or self-regulatory. In Europe, Scandinavia, and Canada, for example, it is increasingly common for sellers to apply and pay for the right to use an environmental seal of approval. In the United States, there are two such seals, Green Cross and Green Seal, although they are found on only a few products at present.

In our audit study, we found a small but diverse set of appeals to authority. In addition to the Green Cross, these appeals referred to the federal government (e.g., the Environmental Protection Agency's Integrated Waste Management Guidelines: U.S.D.A. regulations for inks), state government (e.g., California VOC Limits; California Organic Food Standards), industry (e.g., "ultra low industry standard" for toxic substances in batteries), and private organizations (e.g., Good Housekeeping Seal). Nevertheless, references to certifying and standard-setting bodies are rare within environmental claims, perhaps explaining the absence of any reference

to this type of claim in the FTC Guides. If the use of certifications and standards increases in the future, it will be important to know whether this use complements or substitutes for more traditional environmental marketing claims.

Conclusions

The FTC Guides issued in 1992 encouraged marketers to make their environmental claims more specific and more meaningful, and substantial progress has been made since then. Whereas the credit for progress must be shared with state-level authorities and self-regulatory bodies, the FTC can take pride in several areas. First, there was some fear that even voluntary guidelines might discourage sellers from make environmental claims, but claims increased in both frequency and prominence in the post-Guides period. Second, source reduction and recycled content claims have increased dramatically in number and specificity. In the case of recycled content claims, firms are typically going beyond the FTC Guides by distinguish pre-consumer from post-consumer content. Third, some of the more problematic types of environmental claims--general claims, brand-name claims, degradability of plastic claims, and ozone claims--have either decreased in frequency or remained at very low levels.

Despite the improvements that have occurred, several problem areas still exist. Most notably, recyclability claims are poorly qualified. If anything, sellers are moving away from qualification by increasing their reliance on exhortations to recycle relative to information about the availability of recycling facilities. Whereas it is understandable that sellers would want to "fudge" their claims in light of the rapidly changing status of recycling facilities, the vast majority of recyclability claims suggest that recycling is unproblematic.

There are also several issues regarding environmental claims that were sidestepped by the FTC Guides but which may become important in the future. One of these issues involves the use of seals of approval and other forms of certification. While claims making reference to authoritative bodies remain rare in the United States, these claims vary widely in terms of the stringency of the standards involved. Consumers may be easily confused if claims refer to a multiplicity of authorities. Similarly, the marketplace is a Towel of Babel they when it comes to environmental symbols. The mobiüs loop is used in a highly inconsistent and unqualified fashion. In addition, several companies and industries use their own environmental symbols. All of this leaves consumers potentially confused and/or cynical.

A final issue left unresolved by the FTC Guides concerns the materiality or substantiality of claims. The FTC Guides do state that marketers "should avoid implications of significant environmental benefits if the benefit is in fact negligible." Nevertheless, many existing claims may fail this test. Certainly, many recyclability claims fail to insure a high probability that an item can be recycled. "No CFCs" claims imply unique when none exist and may deflect attention from other environment-threatening propellants. This issue of materiality is only likely to become more complicated when firms begin to make claims about a brand's lifecycle environmental impacts.

In sum, the FTC Guides seem to have had some of their intended effects, but it is not known how the effectiveness of the U.S. guidelines compares to those promulgated in countries such as the Canada, the Netherlands, and Norway. Among these various sets of guidelines, the FTC version is among the most lenient toward sellers and most narrow in focus. Comparative study is needed to determine whether guidelines should be stronger or weaker, more expansive or more limited, than in the United States.

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Consumer Activism to Secure Ecological Objectives: Recent Boycott Initiatives Directed Against Major Corporations

This interview study attempted to advance knowledge of consumer activist efforts to secure ecological objectives. The study focus was on 12 environmental protection boycotts and 12 animal rights boycotts. Two noteworthy study findings are 1) almost all of the boycotts were media-oriented rather than marketplace-oriented, and 2) most of the boycotts did not realize their objectives. Implications of the study findings are discussed for ecological change agents seeking to influence corporate policies.

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A concern with perceived threats to environmental quality, for humans and non-humans alike, has prompted new groups to form to vigorously protest the offensive actions of corporations. Among the participants in the protest actions have been environmental protection (EP) groups as well as animal rights (AR) groups. The concerns of the EP groups have included destruction of the rainforest, biodegradability of consumer product packaging, recycling of oil in the production of automobiles, and the seemingly needless destruction of wildlife in natural settings, e.g., dolphins. AR activists have shared the environmentalists' focus on wildlife but they have also concerned themselves with the treatment of animals in captivity. Particularly offensive to these groups is the use of laboratory animals in consumer product development and testing (e.g., cosmetics), especially if this results in cruel treatment or death to the animals.

The targets of the boycott actions have included well-known brand names representing the consumer products and services of major corporations. Included here were automobile manufacturers (General Motors, Chrysler, Peugeot and Mitsubishi), food processors (Heinz and Bumble Bee Seafoods), drug companies (Bristol-Myers, Squibb, and SmithKline Beecham) and cosmetics firms (Avon, Mary Kay, Chesebrough-Ponds, and Neutrogena). Still other boycott targets have included American Express, Benetton, Dow Chemical, Georgia-Pacific, Gillette and Weyerhaeuser.

While several consumer tactics have been used by protest groups, their dominant tactic has been the consumer boycott. As several observers have noted (e.g., Putnam and Muck, 1991), unlike other tactics, the consumer boycott threatens the very survival of corporations by depriving them of sales. And this threat is not viewed as a empty one by American business; indeed, a Sentry Insurance Company survey in 1977 found that boycotts were the expression of consumer protest which American business leaders perceived as more effective than any other (Sentry Insurance, 1977).

The primary objective of the empirical study reported herein was to secure an understanding of contemporary consumer boycotts dealing with EP and AR issues. These two issues, while relatively absent in the boycott agendas of the 1970s (Friedman, 1985) and the early 1980s (Garrett, 1987), have emerged as major concerns of boycott efforts in the late 1980s and early 1990s, reflecting the larger contemporary role assumed by the EP and AR movements.

Data Collection Procedure

The data collection procedure consisted of three stages.

Stage 1: Literature Review

A major effort was made to secure information pertaining to EP and AR boycotts occurring in the five-year time period for the study (1987-1991). This time period was selected since boycotts occurring prior to it were likely to be too old to yield much useful information from interviewees, and boycotts occurring later were likely to be too new to provide information about long-term effects.

The data sources drawn upon included 15 literature retrieval indexes for newspapers and magazines. Also included were file materials from two major boycott resource centers - the Institute for Consumer Responsibility and Co-op America. The literature search identified more than 100 EP and AR boycotts.

Stage 2: Mail Survey

To secure more information about these boycotts a brief screening questionnaire was prepared and mailed to the principals representing the boycott groups and targeted firms. Accompanying each screening questionnaire were copies of materials secured in Stage 1 describing the boycotts. To make matters easy for the addressees, each was simply asked to check the materials for accuracy and completeness, and to provide, where appropriate, the necessary corrections and additions. A current address and phone number were also requested for the individual most knowledgeable about the boycott in the addressee's organization (boycott group or targeted firm) who could serve as a contact person for additional questions.

Stage 2 yielded 32 instances of matches, or cases in which the two parties to a boycott (boycotter and boycottee) both responded to the survey and included information on contact persons.

Stage 3: Personal Interviews

An effort was made here to interview each member of the 32 pairs, either in person or by telephone. Two interview forms were developed and pretested, one for the boycott group and one for the target corporation. An extensive campaign in mid-1992 yielded personal interviews with both members of 24 matched pairs (boycotter and boycottee). Of the 24 boycotts, 12 dealt with EP issues and 12 with AR issues.

Study Highlights

Since the total number of boycotts of each type was small, the data analysis was primarily descriptive with attention given to a variety of boycott dimensions noted elsewhere (Friedman, 1991). Due to space limitations we focus here on the major data trends or highlights uncovered by this interview study.

At the outset it should be noted that interview studies which focus on highly publicized group conflicts are likely to suffer from significant methodological limitations and the current study is no exception. As a result its findings should be treated with considerable caution.

With this caveat in mind it is well to ask what generalizations are suggested by the interview responses. Of special interest are generalizations which are consistent with past research findings on consumer activism. Among the data suggestions of interest are the following:

1. Contemporary EP and AR boycotts tend to be national in scope.
2. Contemporary EP and AR boycotts tend to be more instrumental than expressive in character.
3. Contemporary EP and AR boycotts tend to be relatively long affairs with many lasting for a year or more.
4. Contemporary EP and AR boycotts tend to assume a militant status featuring such actions as picketing and demonstrations.
5. Contemporary EP and AR boycotts tend to target producers and processors rather than retailers.
6. Contemporary EP and AR boycotts tend to be more media-oriented than marketplace-oriented.
7. In seeking targets for their actions, the largely media-oriented EP and AR boycott groups tend to look for image-related weaknesses to exploit through the skillful use of dramatic devices and techniques.
8. However, marketplace-oriented boycott considerations, such as product characteristics, are not ignored in EP and AR actions.
9. Communications between boycotters and targets in contemporary EP and AR actions follow no simple pattern.
10. Whether measured by execution or consequence criteria, the success rate for EP and AR boycotts tends to be modest.

The Role of Consumer Activism in Securing Ecological Goals

A key concern of the interview study was to determine what lessons could be learned from the boycott experiences to help activists work more effectively to secure ecological goals. In this section we address this concern.

First it should be noted that almost all observers agree that a major societal transformation will be required to move markedly closer toward realizing the ecological goals confronting humanity. And this transformation, which would impact such critical areas as energy utilization, pollution control, and waste disposal, cannot succeed without the help of major corporations. There are many ways to secure their participation (government regulation, tax incentives, etc.), and consumer activism in general, and consumer boycotts in particular, would appear to be one of them. Indeed, a case could be made for organized consumer action in the form of boycotts as one of the more attractive tactics available to ordinary people seeking to secure ecological

goals. For, in theory, the boycott permits such individuals to exercise "economic democracy" every day with their purchases in the marketplace by rewarding companies whose actions are ecologically sound and by punishing companies whose actions are not.

The critical question that naturally arises is how well economic democracy theory translates into practice. The findings of this modest study suggest that what works in theory may not work in practice. While it is true that some of the boycotts were effective, most were not. And those which were effective were characterized by certain psychological properties that may limit the usefulness of the consumer boycott tactic to the promoters of ecological goals. In particular, the objectives of the successful boycotts tended to be cognitively simple and emotionally appealing. Indeed, some of these objectives took on the character of catchy slogans, such as "save the dolphins" (from the nets of the tuna fishermen) or "save the rabbits" (from the tests of the cosmetics developers). Unfortunately, the complexities inherent in many ecological recommendations for corporate practices are not likely to be reducible to simple slogans for energizing and directing boycott campaigns.

The successful boycotts apparently worked not because consumers stopped buying the boycotted goods but because the boycotters were able to secure news media coverage of the offending practices of the targeted firms. This suggests that change agents intent upon securing ecological goals through changes in corporate behavior, may wish to consider mounting major media-oriented boycott campaigns, especially if the boycott objectives can be reduced to simple slogans. Such campaigns are often expensive and, indeed, it was the relatively large and well-funded organizations in the study which were able to initiate and sustain them.

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Endnote

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Consumer Education for Limited Resource Families: A Case Study on Waste Reduction

Using a convenience sample of low income families, a needs assessment for a community education program on waste reduction was conducted. The resulting waste reduction education program was delivered in both one-on-one and small group settings to low income families participating in a nutrition education program. Pre- and post-test survey results show that this one-on-one/small group approach is effective. Low income families increased their practice of five waste reduction behaviors: more families bought products with less packaging, more bought reusable products, more bought products or packages that can be recycled, more bought products with recycled content, and more recycled.

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Introduction

Limited resource families (defined as individuals and families with less than 125 percent of poverty level income and/or less than the median level of education for their area) have been, and will continue to be, a target audience for a variety of social service and educational programs. Yet many of these families are difficult to reach with consumer education programs due to a variety of cultural, economic, and attitudinal barriers. It is especially difficult to reach these families with consumer education programs which focus on issues that are perceived as non-salient, such as waste reduction and recycling.

The United States produces more waste than any other country in the world (Powelson, 1992), with the majority of our garbage going to landfills. This method of management has become increasingly more expensive as availability of landfill space declines and questions arise as to the safety of these facilities (Carless, 1992; Strategies for Source Reduction Steering Committee, 1991). The need for a new way to manage this country's waste has led to the promotion of the practice of source reduction. The concept behind source reduction is that it is "far better to reduce wastes in the first place than to cope inadequately with their aftermath" (Strategies for Source Reduction Steering Committee, 1991, p.xi).

Source reduction is the top priority in the EPA hierarchy for waste management, followed by recycling and composting, waste to energy conversion, and, finally, landfilling. However, most waste management programs, as well as research, in the late 1980s and early 1990s have focused on recycling. Furthermore, the participation rates of low income families in recycling and other waste reduction programs is generally lower than that of other residents (Vining & Ebreo, 1990; Lansana, 1992). It is a commonly held belief that limited resource families have other primary concerns--paying rent, having enough food, keeping the kids off the streets--which take precedence over concerns for the environment (Howenstine, 1993).

This paper reports on a community-based education program on source reduction which involved low income families. We suspected that low income families do indeed care about the environment and would like to make the world a better place for their children, but lack knowledge on the issues and behaviors associated with waste reduction which prevents them from participating fully in environmentally-conscious activities. The goal of this waste reduction education program is to enable limited resource families to participate meaningfully in waste reduction.

Background and Previous Research

Waste Reduction

There is a growing acceptance and enthusiasm in this country for recycling, although a similar enthusiasm for source reduction remains undocumented. Many agree that both recycling motivation and practical waste reduction knowledge are necessary ingredients for participation in most programs (Simmons & Widmar,

1990; Howenstine, 1993; Lund, 1993). Several studies have reported on the relationship between awareness and knowledge of appropriate waste reduction practices and participation in environmentally responsible behaviors (Lansana, 1993: Vining & Ebreo, 1990; Simmons & Widmar, 1990), and acknowledge a need for educational programs on waste reduction.

Educational programs that use the principle of intrinsic motivation for participants, rather than an extrinsically motivated incentive program, are favored for several reasons. Incentive programs that provide some sort of reward or punishment to participants have not garnered very high participation rates, despite the inducement they provide. Educational programs conducted on a completely voluntary basis have been able to achieve a high participation rate. A study done in Greensboro, NC attempted to increase education and awareness on waste reduction with a goal of getting families to reduce their waste generation by 5 pounds per week. The rationale behind the program was that people will change their behavior if exposed to information that makes them aware of the choices available. The program was a success; they exceeded their goal (City of Greensboro, 1992).

There are costs associated with educational programs, and the requirements of one-on-one and small group settings necessitate a pool of educators. Overall, however, educational programs are a lower-cost alternative to incentive programs since they do not require the continual provision of funds of a monetary reward program. Extrinsically based programs are rarely proven cost-effective over the long-term. Finally, those types of programs often do not result in sustained behavior changes; participants revert back to their old ways once the reward is removed (Lund, 1993; Vining & Abrade, 1992; Katzev, Blake, & Messer, 1993).

Studies have tried to discern if there are any demographic variables that are characteristic of people who act in an environmentally-conscious manner. Citing past studies, Vining and Ebreo state, "Evidence for this factor (demographics) on support and concern for environmental issues is equivocal. Some studies indicate positive associations between such factors as age, social class, and income, whereas others show negative or negligible associations" (Vining & Ebreo, 1990, p. 59). The results of their study indicated no differences for recyclers and nonrecyclers in terms of gender, household size and composition, occupation, or education level. There was a weak difference in age and income of recyclers and nonrecyclers, recyclers being older and having higher incomes. A study published in 1991 on the factors influencing recycling behavior in households found that most demographic variables did not predict pro-environmental behavior, and overall, there was no general factor that accounted for environmental attitudes and behaviors (Oskamp et al., 1991).

There is not a great deal of consensus on the demographic predictors of pro-environmental behaviors. This is in part due to the limits of the samples used in each of these studies. Perhaps there are no all encompassing demographic predictors of recycling behaviors, and predictors are only valid for the particular target community being studied.

Consumer Education for Limited Resource Families

Limited resource audiences are generally under-represented in adult education programs and research (Merriam & Caffarella, 1991; Briscoe & Ross, 1990). First, the published research studies for this target learner group tend to be on formal, for-credit education. Secondly, programs for limited resource learners tend to be job training and remedial education rather than those focusing on family resources, such as financial management (Swanson, 1993).

Reports of successful low income educational programs support the merit of understanding the audience (Roberts et al., 1991; Randall et al., 1989; Schuchardt et al., 1991). These efforts have uncovered positive resourcefulness and many norms and values held in common with persons with higher incomes. Costin (1988) found that programs perceived to be useful by limited resource learners were those that were directly involved with the learners' life situations, offered prestige, allocated status, and maintained the social structure.

Briscoe (1990) noted that research on the effectiveness of education with culturally diverse populations is sparse. She reported that disadvantaged learners and African-Americans have been shown to respond favorably to programs when the program is in a nonformal setting, includes participatory decision making, and involves non-traditional learning. Learning can be empowering if the practical strengths of limited resource audiences are a foundation for programs and if new learning is put to a test through application (Kolb, 1984).

The Program

The Get the Goods, Not the Garbage is a project developed and piloted by Cornell Cooperative Extension, Department of Consumer Economics and Housing, Cornell Waste Management Institute, and the

Expanded Food and Nutrition Education Program in Cornell's Division of Nutritional Sciences. The developers of Get the Goods suspected that low income families do indeed care about the environment and would like to make the world a better place for their children, but, in accordance with Vining and Ebreo's 1990 study, concur that a lack of knowledge on the issues and behaviors associated with waste reduction has prevented them from participating in environmentally-conscious activities. The goal of Get the Goods is to educate these limited resource families, enabling them to participate meaningfully in waste reduction.

Get the Goods was developed to be incorporated into nutrition education programs, specifically the Expanded Food and Nutrition Education Program (EFNEP) of the Cooperative Extension System. In EFNEP, low income families have the opportunity to learn about nutrition and food resource management in one-on-one and small group settings. Paraprofessional teaching assistants assess the needs of learners and develop and deliver lessons based on these needs. Given previous studies on educational programs with limited resource families, this one-on-one, intensive effort was expected to be useful in delivering consumer education on waste reduction.

Americans are a busy people. Educational programs, if they are to be accepted by the public, need to contain simple ideas that require little time and effort to incorporate into their daily schedules (Lund, 1993). The program method, incorporating basic environmental issues into the EFNEP lessons, was designed to result in minimal disturbance of participants' usual routines.

Get the Goods was piloted with low income EFNEP families in a rural county and in a major city. In Spring of 1992, the locally-based teaching assistants surveyed EFNEP families to assess the waste reduction topics about which they needed further education and concerns that might motivate them to reduce waste. The rural area had county-wide curbside recycling and knew about recycling, but lacked information on waste prevention, reusing, and buying recycled products. In the city, selected neighborhoods had curbside recycling; others used drop-off recycling sites. The city needs assessment showed that residents could benefit from information in all areas of waste management. When asked about what might motivate them to pay attention to waste reduction, respondents indicated that "making that world a better place for my children" and "making the neighborhood cleaner" were key motivators.

Based on the results of the needs assessment, and understanding some of the factors that motivate the families, materials were developed. Additional revisions of the materials, based on evaluations by teaching assistants, agents, and EFNEP participants were undertaken in the summer and fall of 1993.

In addition to the standard EFNEP assessment tools which include a Family Record (information on the family's residence, income, education, family composition, and food knowledge and practices) and 24 Hour Food Recall (a record of the foods eaten by family members in the past 24 hours), teaching assistants used a waste reduction survey as a pre-test needs assessment. Educators can then personalize the lessons by incorporating appropriate activities which address knowledge gaps identified through these tools. Activities were designed around five principles or concepts in waste reduction: Reduce, Reuse, Recycle, Buy Recycled, and Respond. Since the program is designed to be learner-focused, teaching assistants can skip over the areas where the learner already exhibits knowledge and concentrate more on areas where assistance is needed.

Program Results

The waste reduction survey was used as both a pre-test to assess learner needs and as a post-test after a series of about 12 lessons over a 6 month period (the number of lessons varies based on learner needs). In the pilot study, 58 families from the city and 19 families from the rural county had complete pre- and post-test surveys. Results of the pre- and post-surveys revealed positive changes in five major waste reduction behaviors:

- 7% more families bought products with less packaging
- 12% more families bought reusable products
- 18% more families recycled materials
- 14% more families bought products with packages that can be recycled.
- 32% more families bought products with recycled content

As a result of Get the Goods, knowledge of community recycling laws increased overall to 83% (up 21%); in the rural county, knowledge of community recycling laws rose from 90% to 100%, while in the city, knowledge of local laws rose from 48% to 79%. Overall, more families knew how to recycle (76%, up from 63%), and more indicated environment and packaging considerations as important in buying decisions (30%, up from 24%).

For the families in the city, we were able to match family demographic characteristics with their pre- and post-participation survey results. This allowed us to explore linkages between family characteristics and

waste reduction behaviors in greater detail; the remainder of this paper will focus on these families. Fifty-eight EFNEP households in the two pilot neighborhoods in the city participated in the Get the Goods. The average family size was between 3 and 4 members, and the average monthly income was $773 (see Table 1). Most (86%) were African-American, 12% were Hispanic, and 2% were American Indian or Alaskan Native. Some (22%) did not graduate high school, but the majority were high school graduates (47%) or had some education beyond high school (31%). The homemaker, on average, was around 36 years old, and the youngest family member was 4. At least one-third of the households participated in WIC, Child Nutrition programs, Food Stamps, or were on some form of public assistance. All were female.

Table 1
Characteristics of Respondents

Means and Proportions	
Family size (mean)	3.9 people
Monthly income (mean)	$773
Age of homemaker (mean)	36
Age of youngest child (mean)	4
Proportion of respondents	
African-American	86%
Hispanic	12%
Native American	2%
Education of respondents	
Less than high school	22%
High school graduate	47%
Beyond high school	31%
Participation in	
Food stamps	40%
WIC	33%
Child nutrition program	86%
Public assistance	33%

Questions on the survey asked families if they engaged in specific waste reduction activities. If they answered yes, they were then asked for an example to validate their response. For instance, if the homemaker said she recycled, she was asked what she recycled. If she gave an appropriate answer (glass, cans, newspaper, etc.), the "yes" was deemed to be valid. If she gave an inappropriate answer (e.g. boxboard, #3 plastics), the response was coded as a "no." The results of the pre- and post-surveys in five major areas of waste reduction education are presented in Table 2.

Table 2
Results from Pre- and Post-Surveys

	Percent answering 'yes'		
	Pre-Survey	Post-Survey	Change
Do you recycle any items?	56%	81%	25%**
During the past year, did you buy something because the product or the package is reusable?	50%	62%	12%
During the past year, did you buy something because the product or the package contained recycled material?	16%	55%	43%**
During the past year, did you buy something because it had less packaging than other products or brands?	29%	45%	16%*
During the past year, did you buy something because the product or the package can be recycled?	34%	53%	19%**

* t-test significant at .90
** t-test significant at 99

In all five of these behavior areas, participants exhibited increases in their environmentally-conscious actions. T-tests between the proportions of the pre-and post-program surveys revealed that the improvements were significant with regard to recycling, buying items that contained recycled material, buying items that could be recycled (at the 99% confidence level), and also buying with less packaging in mind (at the 90% confidence level.) The percentage of participants buying reusable items did not increase significantly.

These aggregate percentages may hide some changes in behavior at the individual level. We looked at people who did not practice a behavior in the pre-test and did practice it in the post-test. The number of families that began exhibiting the desired behaviors as a result of this program are presented in Table 3.

Table 3
New Behaviors

Behavior	Number of Families
Recycling	13
Reusing	12
Buying recycled content	24
Buying with less packaging	16
Buying items that can be recycled	14

Number of Positive Behavior Changes	
0	23
1	14
2	14
3	3
4	4

Overall, 35 out of 58 participating families (60%) reported a positive behavior change in 1 or more of the 5 specific areas. This does not mean that the remaining 23 families did not practice waste reduction, most were already doing one of the five practices but did not change any behaviors. Additionally, 21 families changed 2 or more behaviors. In cases where a family exhibited a positive change in 1 or 2 categories, most were already performing at least one of the other behaviors. For example, of the 35 families who were affected by the program, 28 were already recycling. This indicates that it was easier to get families who were already in some way acting in an environmentally-conscious manner to improve their behavior in other ways.

The Value of Educational Programs

When it comes to changing behaviors, educational programs have been successful in promoting higher participation rates in waste reduction and recycling, even when they are conducted on a completely voluntary basis. A study in Greensboro, NC used community education on waste prevention to achieve waste reduction of more than five pounds per week among participants, exceeding the goal set by the program. The rationale behind the program was that people will change their behavior if exposed to information that makes them aware of the choices available (City of Greensboro, 1992). The data from Get the Goods presented here also demonstrate the potential impact of education. While actual amount of waste reduced was not measured, the changes in knowledge and reported behavior changes were significant. Both the Greensboro project and Get the Goods used more intensive approaches to education than simply sending a single mailing or using the media. They relied or repeated contacts over many months to teach and work with limited resource families.

There are obviously costs associated with such educational programs, but they are more likely to produce more lasting results. They are relatively intensive and rely on intrinsic motivations of learners where behavior change is motivated by the information. Extrinsic motivators such as taxes, user fees, or fines also work; Stone (1991) found that user fees (a pay-per-bag system) significantly increased recycling rates for newspaper, glass, plastic, metals, cardboard, and composting. However she also found that the user fee system did not affect purchasing patterns with respect to families buying less packaging (i.e. engaging in waste prevention). Also, extrinsic motivators may not sustain the behavior changes once the external motivator is removed. DeYoung found that people do things that make them "feel good." Conservation behavior is satisfying in and of itself (DeYoung, 1985-86, p.283).

Conclusion

One of the findings in the initial survey done to develop Get the Goods was that "making the world a better place for my children" was a powerful motivator. Effective educational programs can help people learn how to act in ways that are congruent with their desires to make the world better.

Communities that are considering mandatory economic sanctions, such as fees, to induce recycling and other types of waste reduction behaviors can learn from a program like Get the Goods. If there is a need for waste reduction and prevention, an informational education program is a logical and effective first approach. Although the requirements of one-on-one and small group settings necessitate a pool of educators, either paraprofessional or volunteer, educational programs may cost less and produce longer-lasting results than mandatory government policies. Also, an educational program puts little strain on the budgets of low-income families in the community, compared to mandatory government regulation which may impose fees or taxes.

Although the sample size was small and despite all the selection bias problems associated with convenience sampling, the pilot studies of Get the Goods show the program to be an effective motivator of limited resource families for waste reduction. The program notebook itself makes administering the program easy, and it is adaptable to many different types of learners. The program is designed to be easy to

implement for nutrition educators by incorporating waste reduction messages into nutrition lessons. The program is easy for the learners too, since the ideas and activities can easily be made a part of their daily lives. And since it is delivered in conjunction with another program (in this case, EFNEP), there is less burden on the learners' schedule.

The finding that many families are already doing something in the area of waste prevention and reduction was heartening. It is also noteworthy that it may be easier to get families who are already in some way acting in an environmentally-conscious manner to improve their behavior in other ways. Marginal changes are always easier than overcoming the initial resistance to change behaviors. Once families see how easy it is to incorporate environmental decisions into their every-day lives, they need to be supported in identifying other strategies they can employ.

This model of providing consumer education to low income families has been proven to work by educating and motivating people to act with the environment in mind. Many people discover that acting pro-environmentally is satisfying and it provides them with a sense of accomplishment. As one of our Get the Goods learners said:

> *"You take it home with you. It's working for me because my understanding has grown a lot. I'm caring about the waste people generate, especially me and my family, and I'm reducing a lot of waste."*

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The Impact of Medicare HMOs on Business, Private Consumers, and Government

Health Maintenance Organizations (HMOs) help manage rising Medicare costs. Data were collected on 517 elderly subjects. Differences between billed costs and contracted Medicare HMO payments were analyzed. Five differences were significant. Two differences were negative, indicating a loss to the HMO, three were positive, indicating a profit. HMO support is based on the belief that business, consumers, and government benefit from the transaction. Study results indicate that the HMO may help stem the tide of growing costs related to health care.

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Introduction

Health care is costing Americans over $800 billion per year and at its current pace will, by the year 2030, equal more than one fourth of the gross national product (GNP)(Hawthorne, 1992). Containing health care expenditures and maintaining the quality of services, is a key issue for all Americans, but is even more crucial for our elderly population.

The number of people age 65 or older is growing at twice the pace of the general population. This group is projected to account for more than 21 percent of the total U.S. population by the year 2030 (Lumpkin & Hunt, 1989). A case can be made that the elderly represent a critical consumer group. Almost 25 percent of older Americans have incomes near or below the poverty line and older Americans use more health care services than any other group by a factor of three to one (Moon, 1990).

The largest single health insurance program in the United States, Medicare, serves over 30 million elderly and disabled people. It is estimated that 29 percent of the U.S. health care expenditures are devoted to the elderly (Prasad & Javalgi, 1992). Jencks and Schieber (1991), report that national health care expenditures, increased at a rate of 11.6 percent; greater than the general economic growth. They go on to report, however, that over the 20-year period between 1970 and 1990, Medicare expenditures grew at an annual rate of 14.3 percent.

With the changing demographics of the U.S. population, and the urgent challenge to identify resources to pay for the resulting health care expenditure increases, policy makers will need to identify alternative delivery systems for the elderly (Levit & Cowan, 1991; Prasad & Javalgi, 1992). One possible delivery system is the health care maintenance organization (HMO). HMOs offer a comprehensive health care package of benefits for a stated premium. There is strong support to show that HMOs have been successful in reducing the overall costs of health care (Block, 1992; GHAA, 1990; Woolsey, 1992).

Objectives of the study

The primary objective of the study was to investigate whether HMOs are successfully (i.e. supplying health care while maintaining a profit) managing health care costs. The success variable was operationalized by looking at differences between the amounts paid by the HMO to the hospital providing the service, and the amounts Medicare reimbursed the HMO (analyzing five preselected DRGs, both separately and collectively). This "cost difference" can be either negative or positive, thus indicating a loss or profit for the HMO respectively.

A secondary objective was to provide descriptive data on the selected sample. Variables analyzed include age and gender of private consumers in the sample, and health care variables including cost of service and Length of Stay in the hospital (LOS).

Review of Literature

Growth of expenditures

There are three major sectors or payers of health care, they include business, the private consumer, and government. Over 12.2 percent of the GNP during 1990 went to national health care expenditures, with a projection of over 16.4 percent of GNP by the year 2000 (Sonnefeld, Waldo, Lemieux, & McKusick, 1991). Little progress has been made over the last 10 to 20 years in containing the growth of health care expenditures.

One way employers reduce costs is by placing covered retirees in HMOs. As this trend spreads, employers will be able to cut their retiree health care costs (Block, 1992). Woosley (1992) projects that premium increases for employers with traditional indemnity plans will continue to average 20 to 27 percent, while increases for employers with managed indemnity plans average 16 to 20 percent. Employers with HMOs continue to lead in terms of controlling health care expenditure increases.

Business

Employers began to establish private health insurance as a fringe benefit during World War II. Since that time it has become an acknowledged and accepted role of business to provide private health insurance. After 1965, government provided coverage for the elderly, poor, disabled and other disadvantaged groups. Business then became the primary source of coverage for the work force and its dependents (Levit & Cowan, 1991). Businesses continue to believe that they should be the source of this support (Woolsey, 1991).

According to Levit and Cowan (1990), "The burden business carries for health spending at least doubled from 1965 through 1989, and, depending on the measure, rose as much as seven times the 1965 level" (1990, p.133). In 1990, $186.2 billion for health care was paid by the business sector, this equates to around 29 percent of all health services and supplies (HSS). This is a change from 1965 levels when business accounted for 17 percent of the HSS (Levit & Cowan, 1991).

The private consumer

Over 21 percent of HSS expenditures in 1990 went for out-of-pocket medical expenses. Out-of-pocket spending includes copayments, deductibles, and payments for services not covered by insurance. In 1990 this made up the largest single category of payments by families and the private consumer. This equates to over $224.7 billion spent on health care in 1990, an increase of 6.8 percent since 1989. Household and consumer spending accounted for 35 percent of the 1990 expenditures. In 1965, the HSS paid by private individuals was 61 percent of all HSS expenditures (Levit & Cowan, 1991). Much of this reduction came from the advent of Medicare and other government programs whose role it is to care for the elderly. Families with an elderly head of household in 1988, spent 12.1 percent of the household income on health care spending. In 1988, this was only 5.0 percent for all families. A key point to note is that health care spending as a portion of adjusted personal income was constant at around 4 percent between 1965 and 1980 (Levit & Cowan, 1990). Levit and Cowan go on to state that for all families, the share of income devoted to health care costs after taxes has been fairly constant. It is when the elderly headed households are compared that we see a consistent rise in costs over the last 15 years.

Government

The growth in health care spending of the government has been dramatic. There was almost a 400 percent increase in federal government health care expenditures between 1965 to 1985 (Levit & Cowan, 1990). In 1965 the federal government purchased 9 percent of HSS which grew to 15 percent as Medicare programs began to get underway in 1967. This upward trend continued in 1976 with 18 percent of all HSS expenditures. Today, federal government expenditures account for about one-third of HSS. Thus, each of the major payer's share accounts for approximately one-third of the total health care costs (Levit & Cowan, 1991). As the population grows older the government's role in providing health care will continue to be an issue.

Medicare and Medicare-HMOs

The development of risk-based prospective payment health plans for the elderly, better known as Medicare-HMOs, were developed out of the passage of the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 (Iglehart, 1985). Under contract, the Health Care Financing Administration (HCFA) pays the HMO 95 percent of what the agency has determined that it would cost to deliver health care to the Medicare eligible participant living in a specific area. The HMO charges the retiree, their former employer, or both, a monthly premium for any additional benefits not offered by the Medicare coverage. This extra coverage can vary by HMO and can include items such as prescription drugs and vision care (Block, 1992).

Payments to the hospitals or HMOs under Medicare's payment system are based on currently established prices for 474 DRGs. These prices reflect average charges for inpatient hospital services provided to Medicare beneficiaries (Price, 1989). Payments are calculated by assigning each DRG a weight which is multiplied by a standardized payment amount. This amount is adjusted for the specific area's hospital wages, teaching status, and percent of poor patients (Jencks & Schieber, 1991; Price, 1989). Other variables include the mix of hospital cases (what type), number of beds, outpatient visits, for-profit status, region and characteristics of the medical staff. (Welch, 1992). The DRG weights are recalculated annually by HCFA.

Since the early 1970s the federal government supported the HMO strategy as a way to deliver an

efficient and fair health care system (Wallack, 1991). Final HCFA regulations allowing all qualified HMOs to enter the Medicare market were published in 1985. In 1990 1.3 million Medicare beneficiaries received their services from Medicare-HMOs. This amounted to approximately 4.1 percent of the Medicare population. Medicare-HMOs are still a relatively new concept in the health care industry and many older people don't know they exist (Prasad & Javalgi, 1992). To the elderly consumer, decisions to join or not join Medicare HMOs are based on four criteria: quality, value, continuity, and convenience (Prasad & Javalgi, 1992).

By using managed care techniques, HMOs work to deliver care for less than what Medicare pays them. This is how Medicare HMOs can make a profit. "HMOs could be treated as an investment, because they appear to save more than the statutorial 5 percent in the long run" (Welch, 1992, p. 98).

Wallack states that, "HMOs can reduce costs below unmanaged fee for service by perhaps 20 percent and below managed fee for service by about one-half that amount" (1991, p. 30). Jencks & Schieber (1991) support Wallack (1991) by noting that HMOs are becoming a common form of coordinated care and have been shown to be 20-30 percent less costly than fee-for-service providers while providing comparable quality.

Procedures

Data were collected from the five DRGs most commonly used by one Medicare HMO in Southern California. The specific geographic area was chosen based upon its high concentration of older citizens. The following information was collected: number of cases per DRG, age, gender, billed cost, dollars paid by Medicare HMO, dollars paid by Medicare for the specific DRG, dollar difference (the DRG paid in relation to dollars paid by HMO), and LOS.

To accomplish the primary objective, which compares five DRGs separately and collectively, t-tests were performed. A minimum significance level of .10 was established as the rejection region. Frequency statistics were generated including mean, minimum, and maximum to address the secondary objective.

Variable definitions

The following definitions are industry specific. These terms will be used throughout the paper.

DRG 1 through DRG 5 - Diagnosis Related Groups, most frequently utilized DRGs in the HMO sample population.

DRG C - All five DRGs combined, includes 517 cases.

Length of Stay - Total days a person under hospital care.

Billed Cost - Amount billed by attending hospital.

Paid by HMO - Reimbursement for services provided by the hospital on a contracted basis.

DRG Paid - Reimbursement paid to the HMO, as established by Medicare's hospital reimbursement system.

Dollar Difference - The difference between the amount paid by the HMO to the hospital provider, and the amount that Medicare reimbursed the HMO (DRG paid - HMO paid). Amount can be negative or positive, indicating a loss or profit for the HMO, respectively.

Results

Description of the sample

Descriptive statistics generated show that the total sample (DRG C) consists of 517 cases. The age of the entire sample ranged from a minimum of 52 years to a maximum of 98 years, with a mean age of 78. Sixty-one percent of the sample were men. The mean billed cost was $8,871, while the mean paid by the HMO was $4,481. The mean dollar amount that Medicare paid to the HMO as reimbursement was $4,429. The dollar difference ranged from a low of -$27,927 to a high of $5,270. The mean dollar difference of the sample was -$52. Average length of stay in DRG C was 5 days.

Results of t-tests

The results of the t-tests revealed five out of six t-tests were significant at the .10 level and higher. Results are presented in Table 1. The t-tests related to DRGs 1 and 3 were rejected at the .10 level or higher, while the t-test analyzing DRG 5 was rejected at the .001 level, indicating that the dollar differences for these DRGs were significantly different from zero. The t-tests regarding DRGs 2 and 4 were both rejected at the .05 level. Results related to DRGs 1, 2, and 5 showed that the dollar differences were significantly greater than zero, indicating that the HMO made a profit from managing these specific categories of service. Results addressing both DRGs 3 and 4 revealed dollar differences that were significantly less than zero, indicating that the HMO did not make a profit from managing these specific categories of service.

The collective DRG (DRG C) was accepted, indicating that the dollar difference in DRG C was not significantly different from zero.

Table 1
Dollar difference t-tests

	Number of Cases	Mean	Standard Deviation	T-Value
DRG 1	138	526.97	304.76	1.73[1]
DRG 2	70	677.61	343.67	1.97[2]
DRG 3	163	-462.98	239.46	1.93[1]
DRG 4	97	-969.81	391.13	-2.48[2]
DRG 5	49	460.93	120.75	3.82[3]
DRG C[4]	517	-51.83	143.65	-0.36

[1]Significant at the .10 level
[2]Significant at the .05 level
[3]Significant at the .001 level
[4]DRG C is the total sample population of DRG 1 through DRG 5

Summary And Implications

Over $800 billion per year is being spent by Americans on health care. By the year 2030 that amount will equal more than one fourth of the GNP. Older Americans use more health care services by nearly three to one when compared to younger Americans. This critical consumer group is growing at twice the pace of the general population. Currently, Medicare is serving over 30 million elderly and disabled people. Medicare expenditures grew at an annual pace of 14.3 percent between 1970 - 1990, much faster than the rate for all health care expenditures.

Wide spread support for HMOs is based upon the belief that all three parties in the health service transaction, (i.e., business, private consumers, and government) could benefit from the HMO approach. Depending on the ability of the HMO to manage costs, there are opportunities for dollar savings and dollar losses. Results of this study indicate that HMOs faces both dollar savings and dollar losses. Three of the DRGs generated dollar savings while two of the DRGs manifested dollar losses. Since some DRGs can create a dollar loss, HMOs must be able to manage all the DRGs so that the net effect is profitable.

Once managed, savings realized by HMOs can help to stem the tide of growing costs related to health care.

All three parties can reap benefits. Business can realize stabilized or reduced costs in premiums for their employees. The private consumer can realize lower out of pocket expenses as compared to current Medicare coverage. Additionally, consumers may experience a reduced tax burden currently supporting government's Medicare system. Government can immediately reduce the over all burden of health care expenditures by utilizing HMOs which provide for a 5% reduction in payment as mandated by HCFA. Implied benefits reaped by the government include lower administrative costs, and reduced accountability for providing and managing health care. Government can reduce the over all burden through HMO providers and spread resources in other needed areas.

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Endnotes

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The Portrayal of Children in Advertisements in Selected Magazines

A content analysis of advertisements in selected consumer magazines was conducted to determine how children were portrayed from 1953 through 1988. Children appeared in approximately ten percent of all advertisements contained in the magazines. The majority of children were white, school aged, and female. Children were most frequently pictured as inactive and appeared in advertisements for personal consumable items. The advertisements primarily used children to promote products designed for use by persons of any age. Children were unlikely to be portrayed as miniature adults but were frequently used as decorative props in advertisements.

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Introduction

In his book The Hurried Child (1981) Elkind expressed considerable concern that the concept of childhood was being threatened. Elkind charged the media (including, but not limited to, advertising) had increasingly portrayed children as miniature adults. Other authors have charged that clothing and aristocratic attitudes portrayed on model children in advertisements invite unfortunate comparisons with children in general. (Jordan, 1987, Fawcett, 1994).

Enrico (1987) pointed out that "kids aren't only taking on new roles and images in ads for products targeted to them, they're also playing a bigger role in ads for adult products." (p. 47) He suggested that one reason for the increased use of children in advertisements aimed at adults is that children are increasingly influencing the buying decisions of their parents. "How-to" articles directing advertisers in the correct uses of children to target particular markets are another indicator of the increased use of children in advertising. (Moog 1985) However, it appears there have been no attempts to systematically explore how children are portrayed in print advertising.

A number of studies have used content analysis to determine how other populations have been portrayed in print advertisements. African Americans (Cox, 1969; Humphrey and Schuman, 1984; Kassarjian, 1969; Shuey, King, and Griffith, 1953), women (Belkaoui and Belkaoui, 1976; Courtney and Lockeretz, 1971; Venkatesan and Losco, 1975; Wagner and Banos, 1972), men (Wolheter and Lammers, 1980), and elderly adults (Hollenshead and Ingersoll, 1982; Ursic, Ursic, and Ursic, 1986) have all been the subjects of such studies. Generally, the purpose of each of these studies was to identify stereotypes of the population under study and/or to determine the frequency or accuracy with which that particular population was portrayed.

Purposes of the Study

The primary purpose of this study was to describe the portrayal of children in print advertising by using content analysis. The variables tested included demographic characteristics of children such as age range, sex, and race/ethnic origin; presence of other models; activities engaged in by children; categories of products and services promoted using children; the use of children in advertisements for products designed for use by children and for products designed for use by adults; and the portrayal of children as miniature adults or their use as decorative props.

Methodology

The selection of magazines for use in the study was done by first selecting six classifications of magazines (Youth, Women's, General Editorial, Men's, Home Service and Home, and Women's and Men's Beauty and Grooming) from the Standard Rate and Data Service (1987) publication of consumer magazines. Those magazines with the highest circulation within each classification for each five-year interval beginning in 1953 and continuing through 1988 were identified. The

final magazine selection was based upon the consistent appearance of certain periodicals as either number one or number two in circulation over the entire thirty-six year period. Only three magazines consistently achieved these positions: Better Homes and Gardens, McCall's, and Glamour were ultimately selected from the three categories of Home Service and Home, Women's, and Women's and Men's Beauty and Grooming.

Advertisements appearing in the April, August, and December issues of each of these three periodicals were coded for each year beginning in 1953 through 1988. If one of these monthly issues was unavailable then the prior month's issue of that periodical was used. The sample included all advertisements that were at least one-half page in size and contained one or more children whose face(s) was(were) visible and who appeared to be 12 years of age or younger. Advertisements with multiple parts, with each part less than one-half page in size but totaling at least one-half page, were included. When an advertisement appeared in more than one magazine or in a different issue of the same magazine it was counted as a separate advertisement. A five-point Likert type scale was used to determine whether 1) the children were portrayed as a "miniature adult" and 2) if the children were primarily used as a decorative prop in the advertisement. The term "miniature adult" was defined for this study as: "miniature adult", a child dressed in clothing considered appropriate for a young adult or adult or a child posing in a sexually suggestive manner or with make-up or hair style that would be considered appropriate for a young adult or adult (Elkind, 1981). "Decorative prop" was defined as a child who is inactive and pictured primarily for display or aesthetic purposes (Belkaoui and Belkaoui, 1976).

The researchers developed a 30-item content analysis instrument. All coding was done by teams of at least two persons. Based on the pattern of initial frequencies, the 36 years for which data were collected were collapsed to nine, four-year survey periods.

Findings

Demographic Characteristics of Children

Over the 36-year period of the study there were a total of 29,370 advertisements in the selected issues of the three magazines used in this study. There were 2,045 advertisements that were at least one-half page in size and contained one or more children whose face(s) was(were) visible and who appeared to be 12 years of age or younger. The smallest percentage of advertisements that contained one or more children during a four-year period was approximately 6% for the 1969-1972 survey period while the highest percentage was nearly 10% for the 1957-1960 survey period.

Use of children in print advertisements was highest in the early part of the survey period, 8% from 1953 through 1956 and about 10% from 1957 through 1960, and then dropped steadily over the next 12 years. Use of children in print advertisements began to rise again in the 1973 through 1976 survey period (6%) and continued through 1980 (7%) when the percentage of printed advertisements containing children again began to decline. The percentage of advertisements containing children in the final survey period was 6%. (See Table 1)

When comparing the three age groupings of infants, preschool, and school age children, it was evident that school age children appeared in printed advertisements more frequently than did either infants or preschool age children through eight of the nine survey periods. However, by the last survey period

Table 1
Percent of Advertisements with Children

Period	Total Ads	Percent With Children
1953-56	3412	8.21
1957-60	2742	9.88
1961-64	2598	7.66
1965-68	2889	6.92
1969-72	2853	5.54
1973-76	3267	6.49
1977-80	4347	6.65
1981-84	3679	5.76
1985-88	3583	6.22
TOTAL	29370	6.96

there was no significant difference in the percentage of advertisements which included preschool age children and those which included school age children. (Table 1)

Approximately 63% of the advertisements contained female children while nearly 58% of the advertisements contained male children. In each of the four survey periods from 1953 through 1968, print advertisements were more likely to portray female children than male children. From 1969 through 1972 male and female children appeared in exactly the same number of advertisements. However, in the latter part of the survey period from 1973 through 1988, print advertisements were more likely to contain male children. (Table 2)

White children appeared in nearly 95% of all advertisements that contained children. Three categories of race/ethnic backgrounds, African American, Asian, and Hispanic, had too few advertisements in each survey period to support statistical analysis. No minority

Table 2
Percent of Advertisements with Children by Category

Category	1953-1956	1957-1960	1961-1964	1965-1968	1969-1972	1973-1976	1977-1980	1981-1984	1985-1988	TOTAL
Age[a]										
Infant	18	16	17	18	16	8	13	16	16	15
Preschool	45	50	42	47	42	52	38	42	51	45
School	54	51	61	63	53	53	62	55	49	56
Sex										
Male	55	53	47	47	58	66	66	64	67	58
Female	61	67	73	74	58	60	58	58	58	63
Race										
White	98	99	96	97	91	88	93	94	96	95
Other	0	0	4	7	15	19	14	15	21	10
Others										
Adolesc.	4	4	12	9	6	5	3	3	4	5
Adult	77	67	50	53	50	47	47	46	35	54
Activity										
Inactive	26	32	36	45	33	48	30	30	38	35
Hobby/ Sports	25	34	26	31	22	23	30	31	34	29
Care	26	25	27	24	37	24	34	33	23	28
Product										
P. Consume	10	14	16	14	30	18	34	27	22	20
Durable	26	23	18	16	13	17	19	9	15	18
Toys	4	3	8	6	6	9	10	17	19	9
User										
<12	5	7	13	13	22	24	21	35	34	19
Anyone	86	83	79	78	74	68	70	60	56	73
Portrayal[b]										
Min. Adult	5	7	9	8	8	1	5	7	8	6
Dec. Prop.	57	51	67	59	48	59	37	45	41	51

[a] Numbers reflect percentages of ads containing children in that period.
[b] Ads for which ratings were "Neutral" were dropped from the Portrayal analysis.

children were portrayed in these advertisements before the 1961-1964 survey period although white children appeared in print advertisements in all nine of the survey periods. (Table 2)

Significant differences in percentages were found for advertisements that contained children in the presence of both adolescents and adults. Adolescents rarely appeared in advertisements with children (5%). This appears to be consistent with a study by Csikszmentmihalyi and Larson (1984) on how 4,448 adolescents spend their time and with whom on a typical day. They found that adolescents spend more than half of their waking hours with friends and classmates and only 5% of their time with their parents or siblings. In contrast, adults appeared in nearly 54% of the advertisements that contained children. However, the percentage of advertisements containing children and adults was highest at the beginning of the survey period, and except for a slight increase between the third and fourth survey periods, declined steadily. (Table 2)

This may indicate that these advertisements are mirroring what is happening in our society. According to Schickedanz, Schickendanz, Hansen and Forsyth (1993), "with the increase in dual-wage families and single

families being a national trend, thousands upon thousands of latch key children now go home to an empty house after school and take care of themselves until a parent gets home" (p. 541).

Activities

This variable was broken into eight Activity categories. Advertisements most frequently portrayed children as Inactive (35%), engaged in Active Hobbies/Sports (29%), and in Personal Care activities (28%). The remaining activity category (Household Activities) contained less than six percent of all advertisements that portrayed children.

The portrayal of children engaged in Active Hobbies/Sports was uneven from 1953 through 1969. However, beginning in the 1969 through 1972 survey period, a pattern in the percentages of advertisements in this category (31%) emerges. This figure begins at 22% in the 1969 through 1972 survey period and then gradually rises throughout the remainder of the survey periods to a high of 34%. (Table 2)

Categories of Products and Services

Ten categories of products and services were identified in the instrument. Eight product categories revealed statistically significant differences in percentages over the 36-year survey period.

Children were most frequently portrayed in advertisements for Personal Consumables (20%) which included food, candy and gum, and beverages. They were also frequently portrayed in advertisements for Domestic Durables (18%) which included appliances, vehicles, furniture, tools, and china and silverware. For the total survey period, only 9% of all advertisements containing children were in the Toys/Hobbies category. However, this low percent for the total masks an increase which began in the 1965 through 1968 survey period and peaked to 19% in the last survey period.

It has been suggested that children have increasingly been portrayed in advertisements for products aimed at them and in advertisements for adult products (Enrico, 1987). The data from analysis of this variable seemed to support the assumption that children have increasingly been portrayed in advertisements for products aimed at them. It is more difficult, however, to determine whether children have assumed a larger role in advertisements for products aimed at adults. The category of Domestic Durables is the second most frequently advertised product category containing children and can be assumed to represent products aimed at adults. From 1953 through 1972 this category showed a decline and then became irregular. Children were more likely to appear in advertisements for Domestic Durables during the first survey period than during the last survey period. (See Table 2)

Intended User of Advertised Product or Service

The instrument included four categories of Intended Users of the products/services advertised.

Nineteen percent of the advertisements were for products/services Designed for Use by Children under Age 12, 12% were for products/services Designed for Use by Persons over Age 12, and 73% were for products/services Designed for Use by Persons of any Age. The greatest change was in products/services designed for use by children under 12. The percentage of such advertisements rose from a low of 5% in 1953-1956 to 34% in the last period, with some fluctuation in the intervening periods.

A reverse pattern existed for the category of products that were designed for use by anyone. Except for a slight increase between the 1973 through 1976 and the 1977 through 1980 survey periods, the percentage of advertisements in this category decreased steadily over the entire survey period (Table 2).

Portrayal

Children were found to be portrayed as miniature adults in only 6% of all advertisements containing children. Children were most likely to be portrayed as miniature adults in the 1961 through 1964 survey period (9%). The percentage of advertisements that portrayed children as miniature adults was lowest in the 1973 through 1976 survey period (1%) and increased to 5% and 8% during the last two four year survey periods.

In contrast, children were used as decorative props in over 51% of the advertisements over the survey period. There was a greater use of children as decorative props from 1953 to 1968. After that time period the percentages fluctuated from a low of 37% in 1977-80 to 41% in the last period.

Discussion

Understanding the portrayal of a population in mass media is important because people believe in and respond to such portrayals. The findings of this study showed that advertisements containing children made up less than ten percent of the total sample of advertisements in each survey period. Although the percentages of advertisements with children differed over the 36-year period no obvious trend could be identified.

Children of African American, Asian, and recognizably Hispanic backgrounds appeared in too few advertisements in each survey period to support meaningful statistical analysis. In their study of the

portrayal of African Americans, Humphrey and Schuman (1984) found a long term rise in the proportion of advertisements that included African Americans. Similarly, the present study found a long term rise in the percentage of advertisements that included African American children. The Humphrey and Schuman study also concluded that African Americans were under represented in magazine advertisements when compared with the African American population of the United States. Although the current study measures the number and percentage of advertisements containing children rather than the number of people in advertisements, it appears that African American children were similarly under represented.

In several of the content analysis studies of magazine advertisements reviewed prior to this study the goal was to determine what role was portrayed by the specific population under study and how that role had changed over time. For example, Courtney and Lockeretz (1971) analyzed the roles portrayed by women in magazine advertisements and were to some extent able to determine whether the roles portrayed in magazine advertisements were accurate. It was possible to compare the percentages of women portrayed as homemakers or in a working role to census data. However, no readily available data exist that can be used to compare the roles portrayed by children in print advertisements to their actual roles. In the present study, the activity category was used to identify the role of children. In the first survey period over 15% of the children were shown participating in household activities. Such portrayals declined to less than 2% by the last survey period. These findings are similar to those reported by Swagler, Sweaney and Marlowe (1989) from a content analysis of children's portrayal of household tasks in television advertising. Advertisements in the magazines used in this study were most likely to portray children in inactive roles, i.e. posing, sitting, watching, and riding.

Implications for Consumer Educators

Concern over the influence of the various media, and particularly advertising, on children remains high. However, most adults seldom consider how the media, including advertising, influences them or their interactions with others (Pollay, 1986). Even less consideration is probably given to the portrayal of specific populations in printed advertisements.

The results of this study demonstrate that marketers have recognized children as a market. Children are no longer used as just decorative objects in advertisements for adult products but instead are used in advertisements to market products that were developed for use by them.

The findings from this study can help consumer educators understand what the portrayal of children in print advertising is, how it has changed and that these changes may have implications in the lives of children. Children must be assisted in developing skills which enable them to critically view printed advertisements and understand the use of stereotypes in advertising. Consumer educators also have a responsibility to ensure that guidelines for the portrayal of children in print advertising are based upon accurate, responsible portrayals of children.

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Housing Affordability: A Comparison of Measures

The purpose of this paper is to compare and contrast three measures of housing affordability. For each measure, statistical analyses of the Panel Study of Income Dynamics data are used to discover the extent of the affordability problem, and the similarities/differences in characteristics associated with the probability of experiencing the problem. Policy implications associated with the use of the different measures are discussed.

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Introduction

Interest in housing affordability has ascended to the top of the national housing policy agenda in the United States, replacing other traditional housing issues such as physical substandardness and racial discrimination (Linneman & Megbolugbe, 1992; Apgar, 1989). Despite its new found prominence, housing affordability continues to suggest different things to different groups, prompting researchers to often talk past each other. These miscommunications are critical, since how one defines and measures housing affordability is inseparable from how one perceives the issue(Rosen, 1984) and it determines who is experiencing an affordability problem. A concrete example is government subsidy programs. The delineation of housing affordability determines which programs are relevant and who is eligible to receive government benefits.

The purpose of this paper is to compare and contrast different conceptualizations and measures of housing affordability and relate them to public policy outcomes; particularly those concepts and measures used to determine who is eligible for housing subsidies. The objectives are:

1. To discover the extent of the affordability problem when using different concepts and measures;

2. To discover household and housing characteristics associated with the problem of housing affordability when affordability is defined as:
   a. housing expenditure/income norm;
   b. housing poverty; and
   c. housing burden.

Definitions of Housing Affordability

The traditional approach of defining housing affordability dates back over 100 years to the writing of Ernest Engel. Utilizing observations of the housing expenditures of renters, Engel concludes that a family should spend no more than 25% of its income for housing, regardless of income level (Feins and Lane, 1981). This ratio considers income to be total gross income before taxes and housing expenditures constitute mortgage principle, interest, property taxes and insurance for homeowners and rental costs for renters.

The 25 percent rule has not been universally adopted by researchers who subscribe to the housing expenditure/income norm method of defining housing affordability. Engel's approach is criticized for not accounting for changes in consumer preferences for housing. In recent years, the observed level of expenditures, and therefore the rent to income ratio, has risen, in part, because of a demand for improved housing quality by consumers (Weicher, 1989). As Linneman and Megbolugbe (1992) state: "the housing standards of yesterday have shifted sharply upward--for both middle-class America and the less fortunate alike" (p. 370).

During the last few years, concomitant with the increase of housing prices, strong pressures arose to raise the traditional standard of housing expenditure from 25% of income to 30% or more (Weicher, 1989; Rosen, 1984). Rosen (1984) notes that the accepted norm of spending 25 to 30% of income on housing may have been appropriate in the past, "but recent economic conditions may require a different standard" (p 128). Political conditions also played a role in adjusting the housing expenditure standard. Deficit problems during the

Reagan administration induced a government decision to require residents of public housing to pay 30% of adjusted income for housing rather than the previous 25% (Leonard, Dolbeare & Lazere, 1989).

The traditional method of defining housing affordability solely in terms of a given percentage of income is challenged by Feins and Lane (1981), Stone (1993) and the North Central regional Research Committee, NC 199 (Winter, et.al, 1994) all of whom utilize a variation of housing poverty rather than the housing expenditure/income norm to measure housing affordability. A family is classified as experiencing housing poverty when family housing expenditures constitute so much of their income that there is not enough money remaining in their budget to meet other basic needs.

Feins and Lane (1981) believe that the amount that a family can afford to pay for their housing depends upon a variety of factors--not just their income. Factors such as size of the family, the area of the country in which they reside, the age and sex of the household head(s), and whether the family owns or rents their home makes a difference in ascertaining what amount spent for housing is affordable. They suggest using the Bureau of Labor Statistics (BLS) family budgets as a basis for developing guidelines for housing affordability. Their argument is that households "should not be expected to pay more for shelter than the amount specified by the BLS budget for the most modest standard of living" (p. 68).

Stone (1993) selects a different approach in defining "shelter poverty". Like Feins and Lane (1981), he challenges the conventional wisdom that the appropriate definition of housing affordability is calculated in terms of a designated percentage of income. He perceives the need for a sliding scale of affordability based on differences in income level and family composition. Many low income families and larger families spend less than 25 to 30% of their income for housing, and continue to be unable to afford the cost of other basic necessities. Unlike Feins and Lane (1981), he determines the amount a household would need to cover all basic necessities, except housing. After these necessities are covered, the residual is the amount the household can afford for housing. Like Feins and Lane, he suggests that calculations of housing affordability be based on the U.S. Bureau of Labor Statistics (BLS) Lower Budgets.

Unfortunately, the last BLS Lower Budgets update was in 1981. While the Lower Budgets can be updated through use of the Consumer Price Index (CPI), Hefferan (1987) argues that such a procedure is ill-advised. She cites the concerns noted by the BLS for discontinuing the budgets in 1981, such as outdated expenditure data, atypical family types and controversial methods for assigning quantities of goods and services. In 1981, the BLS stated that costly new methodologies, expenditures and price data would be required to continue producing the budgets.

The North Central Regional Research Project NC199 (Rural Household at Risk of Serious Housing Problems in the North Central Region) (Winter, et.al, 1994) also defines housing affordability in terms of housing poverty. Rather than referring to the Bureau of Labor Statistics Lower Budgets as a determinant of basic needs, the North Central Regional Research Group defines basic needs as the official federal poverty threshold.

The housing poverty measures suggested by Michael Stone (1993) and the NC199 Committee define measures of housing affordability in terms of having enough income remaining after paying housing costs to cover other basic necessities. In fact, a family might spend nothing for housing and still be classified as experiencing shelter or housing poverty. Peter Salins (1989) sees this concept as flawed. He questions isolating only shelter as the variable of concern. Why not food and identify a construct called "nutrition-poverty"? He sees the real villain as poverty.

This argument leads to another candidate for measuring housing affordability; i.e, housing burden. Salins (1989) critique of housing poverty is a fair one. Poverty is the problem, but researchers must identify the source of the problem to combat it efficiently, whether it be housing, food, or some other factor. Housing burden is a measure designed to specifically identify those individuals that are experiencing poverty where housing costs are a primary component contributing to their monetary troubles.

The concept "housing burden" indicates situations in which housing costs contribute to the problem of inadequate resources to meet the basic needs of families. This concept adopts aspects of the traditional expenditure/income norm by allocating 30% of income for housing as an appropriate housing budget. Housing burden also adopts aspects of housing poverty by focusing on families who after spending 30% or more of their income for housing, do not have enough income remaining to cover other basic necessities. In these cases, excessive housing expenditures contribute directly to the problem of meeting basic household needs, and government housing programs possess the capacity to mediate the poverty problem.

Differences in the definitions of housing affordability likely mean differences in the characteristics of households experiencing affordability problems. Policy makers influence the design of programs intended to

address the housing affordability problem. Thus, the definition of housing affordability has direct policy implications.

This study examines the dynamics of three definitions of housing affordability. The first definition, housing expenditure/income norm, identifies households that spend over 30% of their income on housing. The second definition, housing poverty, identifies households that have an income below 70% of the poverty level after removing housing costs. The third definition, housing burden, identifies households that meet both of the aforementioned criteria.

The usefulness of the first definition is best applied as a guide. The notion that a millionaire who spends more than 30% of his or her income on housing as enduring of housing distress is ludicrous. The point is that the 30% criteria is unsatisfactory for use by government assistance programs. However, utilizing a 30% guideline in advising families in budgeting situations appears to be an appropriate use of the measure.

The second definition, housing poverty, does not specifically measure poverty created by housing. It reflects all people who are in poverty. It includes individuals paying no money for housing costs, but earn under 70% of the poverty threshold. Therefore, it might be a helpful criteria for those individuals that desire to use housing as a subsidy to reduce poverty, but does not help specifically identify those individuals that are experiencing dire conditions due to the cost of their housing.

The superiority of the concept of housing burden is that, by combining the 30% guideline with the poverty level, one is able to isolate those individuals that are experiencing poverty and housing costs are an integral part of the cause of their impoverishment. This definition does not identify the reason that the individual or family is experiencing a housing burden. It cannot distinguish between poor management of money and the inability to obtain affordable housing, but it does allow the identification of individuals who require assistance.

This paper compares the characteristics of the groups categorized under the different definitions of housing affordability. This comparison helps isolate the dissimilar policy recommendations that follow from each operationalization of housing affordability and to better understand the impact of the definitions that are applied to the problem.

Methodology

Data from the 1987 Panel Study of Income Dynamics Wave XX, were used in this analysis (Survey Research Center, 1989). Data were collected from the male head of household, if present. Otherwise, the data were collected from the female head of household. The sample of 7061 heads was weighted so that it is representative of the United States population (Duncan & Morgan, 1985).

Independent variables used in the analysis are defined and measured as follow: (1) age of household head is the age, in years, at the time of the interview; (2) head of household is designated as male, female or dual with dual being the indicator group; (3) household size is measured to include the number of persons living in the household at the time of the interview; (4) a head of household is classified as a minority if the head is Black, Asian, Hispanic, or Native American; (5) income is measured as the dollar amount received, before taxes, by the household in 1986; (6) a household is considered disabled if the household contained an adult individual that had a previous condition that limited the type or amount of work done; (7) health is measured by asking the respondent to self-report his/her health as either poor, fair, good, or excellent; (8) tenure is measured as either ownership or rental of the housing unit; (9) housing assistance is coded "yes" if any one of the following conditions were met by the household: lived in public housing; the government paid part of housing costs; the household received help with their heating bills; (10) public assistance is coded "yes" if the household received any one of the following: Supplemental Security Income, Medicaid, food stamps; (11) urban areas include counties of residence in which the population of the largest city was 50,000 or more; rural areas include counties of residence in which the population of the largest city was less than 50,000; (12) geographic regions of the United States are those defined by the U.S. Bureau of the Census. They are Northeast, North Central, West and South.

The dependent variables are conceptualized and defined as follow: (1)housing expenditure/income norm--if housing expenditures consume 30% or more of household income;(2) housing poverty--if household income (minus housing expenditures) is less than 70% of the household's poverty threshold; (3) housing burden--if a household is spending 30% or more of household income for housing expenditures; and has less than 70% of the household's poverty threshold remaining. Housing expenditure is defined as money spent on utilities, rent, mortgage payment and property taxes.

To discover the extent of the affordability problem when using different definitions, frequency distributions are reported. To discover household and housing characteristics associated with the problem of housing affordability when defined as: (1) housing

expenditure/income norm; (2) housing poverty; and (3) housing burden, the SPSS program for logistic regression was used. Each of the housing affordability measures was treated as a dependent dichotomous variable.

Results

Of the households in the weighted sample, 16.5% pay more than 30% of their income for housing (housing expenditure/income norm); 12.1% of the households experience housing poverty; and, 8.4% experience housing burden. The first measure of housing affordability (housing expenditure/income norm) includes households with higher incomes, and as a result, more discretionary income that can be allocated to housing. Because of the higher income, enough income remains to meet other basic needs as defined by the poverty threshold. Therefore, although all of the households are spending more for housing than is recommended by social planners, many are not experiencing problems that suggest a need for assistance.

The second measure of housing affordability (housing poverty) includes households who are not paying at least 30% of their income for housing, but still do not have enough income to meet remaining basic needs as defined by the poverty threshold. Under this definition it is unclear whether government housing assistance or some other form of assistance would be most effective in reducing the poverty problem.

The third measure (housing burden) identifies households who are paying at least 30% of their income for housing and do not have enough income remaining to meet basic needs as defined by the poverty threshold. This measure eliminates households paying more than 30% and having enough income left for remaining needs; and it also eliminates families in poverty who are not paying 30% for their housing, but still don't have enough left for basic needs. Thus, the remaining individuals in the category of housing burden are economically stressed and paying an inordinate amount of their income for housing. These individuals can be efficiently helped by the implementation of government housing programs.

For each of the three measures (with other variables controlled) the data indicate that large families, lower income households, households with higher educational level, female headed households and older households have a greater probability of experiencing a housing affordability problem ($p<.05$) (See Table 1). Households living in the Northeast and Western regions have a greater probability than the mean of having an housing expenditure/income ratio of over 30%, but do not have a greater probability of experiencing housing poverty or housing burden. Households receiving public assistance and younger households have a greater probability of an expenditure/income ratio of over 30% and of experiencing housing poverty, but not housing burden. Homeowners have a greater probability of experiencing housing poverty and housing burden, but not having an expenditure/income ratio over 30%. Urban households have a greater probability of experiencing a expenditure/income ratio of over 30% and to be housing burdened than rural households, but are not more likely to be in housing poverty.

The findings show more similarities than differences across the measures. The differences in characteristics identified across measures appear to reflect the nature of the measures. The greater probability of households in the Northeast and West (where housing costs have been high) and in urban areas (where housing preferences may be higher) of spending more than 30% of income on housing may reflect the impact of higher income households who are using discretionary income to meet housing needs. The finding that urban households who have a greater probability than rural household of being housing burdened but not of experiencing housing poverty may reflect higher preferences for housing and/or higher housing costs.

Homeowners, when controlling for other variables, are more likely to experience housing poverty and housing burden, but not a housing expenditure/income ratio of over 30%. At the lower income levels, it is likely that many homeowners have over extended themselves in order to buy a home. This phenomena would not be as prevalent for households with higher incomes as would be found in the measure of housing expenditure/income ratios.

The greater probability of households receiving public assistance experiencing housing poverty likely reflects the inclusion of the very low income households not paying 30% of their income for housing; a group not included in the other two measures. This finding provides evidence that housing poverty is incorporating casual variables relating to all forms of poverty into the measure of housing affordability.

For the housing expenditure/ income norm measure, the variables included in the model were able to predict 85.96% of the cases correctly. For the housing poverty measure, 97.07% of the cases were classified correctly. For the housing burden measure the classification table indicated 94.15% of the cases had been correctly classified.

Table 1. Logit regression of measures of housing affordability on selected independent variables

Characteristics	Expenditure/income ratio		Housing poverty		Housing burden	
	Coeff-icient	Standard error	Coeff-icient	Standard error	Coeff-icient	Standard error
Family Size	.2866*	.0417	1.5728*	.1284	.7156*	.0802
Head of household[a]						
Male/Female	-.2988*	.0781	-.0807	.1778	-.0405	.1425
Female	.3251*	.0567	.2547	.1177	.2012	.0935
Male	-.0263		.1740		-.1607	
Age of head	.0266*	.0131	.0769*	.0248	.0390*	.0202
Age^2 of head	-.0003*	.0001	-.0007*	.0002	-.0003	.0002
Education of head	.1142*	.0259	.1445*	.0554	.1095*	.0448
Family income	-.0001*	4.88 E-06	-.0008*	4.18 E-05	-.0004*	1.96 E-05
Race (white)[b]	-.0201	.1012	-.0263	.2032	.1372	.1601
Poor health[b]	.0932	.1095	.0355	.2008	.0526	.1647
Bisabled[b]	.0012	.1010	-.1841	.1955	-.0156	.1630
Tenure (rent)[b]	-.1576	.0931	-.6172*	.1822	-.6869*	.1529
Rural[b]	-.2596*	.0808	-.3079	.1682	-.3764*	.1361
Region[a]						
Northeast	.1311*	.0716	.1425	.1563	.1247	.1243
North Central	-.1580*	.0643	-.0218	.1344	.0346	.1054
South	-.1988*	.0646	-.0602	.1314	-.0911	.1078
West	.2257*		.0605		-.0682	
Public assistance[b]	.2827*	.1172	.5884*	.1971	.2544	.1572
Housing assistance[b]	-.1232	.1126	-.2790	.1870	-.2358	.1191
Constant term	-.5521	.3463	1.6441	.7316	-.1474	.5708
Model Chi-Square	1691.655*		3558.100*		2164.558*	
%Classified Correctly	85.96		97.07		94.15	

* Significant at the 5 percent level

a Calculated using deviations coefficients

b Coding: Minority=0, white=1; own=0, rent=1; urban=0, rural=1; public assistance, housing assistance, disabled, poor health, no=0, yes=1.

Policy Implications

The analysis of the measures of housing affordability clarifies similarities and differences among the measures, and thereby enables policy makers to selectthe measure most appropriate to meet their desired goals.

If simplicity is desired for advising individuals of recommended expenditures for housing, then the housing expenditure/income norm is the most appropriate measure. This measure is a quick and easy guide to planning housing expenditures for individuals of all income levels. However, the measure includes households who have chosen to spend a large part of their discretionary income on housing and would not be the appropriate measure for government aid programs.

If the goal is to reduce the effects of poverty, in general, and housing is perceived as a means for accomplishing this goal, then the housing poverty measure could be utilized. The shortfalls of this measure is that housing aid will be allocated to many individuals and families who have other problems. If the cause of poverty in a community is a lack of jobs or an undereducated population, infusing money in housing programs is not the most efficient method of combating poverty.

If the goal is to help those who are paying excessive amounts of their income for housing to the extent that inadequate income remains for other basic needs, the housing burden measure is most appropriate. The housing burden measure identifies families that require housing assistance to escape poverty. By narrowing the category of housing affordability to families that are both paying too much for housing and experiencing poverty, a more useful indicator for government aid programs is created.

Noting the above goal of providing a governmental tool, a strong argument can be presented for using the housing burden measure. Linneman and Megbolugbe (1992) note that no country relies exclusively on the private sector to shelter low-income families. The question is: How large should the assisted sector be and who should be the recipients of assistance? Kain (1983) argues that housing subsidies that target middle- and high-income households, "are inefficient because they induce homeowners to consume more housing than they would otherwise" (p. 147). He also sees the housing problems of poor persons as problems of poverty. Using the housing burden measure would focus the housing assistance on a smaller, more specific segment of households--a segment that is paying high housing costs with the consequence of inadequate funds for basic needs.

A second area where differentiation of the housing affordability measures provides policy guidance is in relation to ascertaining the appropriate strategy to address the housing affordability problem. Is the affordability problem one of weak demand and therefore the use of vouchers is suggested? Or is the problem one of inadequate supply, suggesting the need for additional housing construction or renovation? Data for a community analyzed using both the housing poverty measure and the housing burden measure would help clarify the housing affordability status of the community. If the data indicate that a sizeable proportion of the population are housing burdened, it would suggest that there is a housing shortage, particularly in the lower cost market and that policies to increase housing supply through construction or renovation would be needed. Conversely, if the data indicate a sizeable proportion in the community are experiencing housing poverty, then housing vouchers (in effect, income maintenance) to increase resources for effective demand would likely be the more appropriate policy.

To conclude, housing burden provides two valuable policy oriented benefits. First, housing burden is a specifically tailored measurement tool that identifies families in need of government housing assistance. This tool aids government in allocating resources efficiently. Secondly, by using housing burden as the dependent variable in studies, more will be learned about the specific causes of housing affordability problems. This research demonstrates that casual differences exist between the different measures of housing affordability that might create misperceptions as to the factors causing housing affordability problems. Using housing burden alone and in conjunction with other measures will allow researchers and policy makers to eliminate some of these uncertainties.

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Endnotes

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Household Demand System Analysis: Implications of Unit Root Econometrics for Modeling, Testing and Policy Analysis

Working with time-dependent information (series that contain unit roots) has strong implications for consumer analysis. A change in consumer policy that is intended to have a transitory impact on household decisions may have a permanent impact, and estimated parameters of decision making models may not follow standard distributions.

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Introduction

Time series data has been heavily relied upon for inference throughout the history of consumer analysis (Stone, 1954; Barten, 1977; Deaton and Muellbauer 1980). However, time series such as household expenditures and prices, have not been shown to be time homogeneous. If the distribution of variables such as expenditures on food and clothing are time-dependent (contain unit roots), then their mean and/or variances are functions of time. Time dependency, or nonstationarity, has remarkable implications for both consumer policy and statistical analysis. Firstly, in the presence of unit roots, any transitory policy change may have a permanent effect on the variable of interest. Secondly, in the presence of unit roots in the data, estimated parameters of demand systems would not follow the usual standard (textbook) distributions; hence, previous empirical findings would be suspect.

This paper provides an expository discussion of the research methodology used in Fox (1994). The analytical approach described in this paper contrasts with those from previous empirical studies by focusing on the time series properties of the data. It is argued that analytical techniques, which focus on these time series properties, provide the best link between consumer theory and short-run information (data) on consumer activity. For the most part, previous studies of consumer demand have ignored the time series properties of the data, therefore, these models of demand can be improved. Unit root testing, which leads to tests for cointegration (long-run equilibrium), has been shown to be an efficient way to make use of the full amount of information in each time series (Mokhtari, 1992; Banerjee, Dolado, Galbraith and Hendry, 1993).

Time Series Reflecting Consumer Behavior

Current and constant (1982) dollar personal consumption expenditures, ranging from 1946 to 1990, for eleven expenditure categories were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis entry in The Economic Report of the President (1991). From these series, the price series used by the U.S. Department of Commerce are easily obtained by dividing current expenditures by constant expenditures for each year for each category. The price series, used in conjunction with current expenditure series and a total expenditure series, provide the essential variables for a theoretically plausible model of consumer demand.

A Graphical Analysis

A great deal can be learned about consumer behavior by looking at the time paths for both the levels and the first differences of key consumption variables. In most cases, the graphs of the levels for budget shares and prices show a distinct trend, along with cyclical variation. The ups and downs of gas and motor vehicle prices are obvious to both the individual consumer and the economist tracking these series. What is not so obvious to the individual, but blatantly obvious to researchers who graph their data, are the stochastic trends imbedded in most of the series used in the analysis of demand.

The time paths for food provide a typical example of a downward trending series (see Figures 1 and 2). The graph of the one period change in food expenditures shows that this downward trend is not simply a constant or a deterministic trend. The jagged paths traveled by the one period changes series indicate that the downward trend follows a variable or stochastic process. For example, Figure 2 shows the rate of decline in the portion of the budget spent on food tends to hover around a half of a percent, but, the actual rate of decline

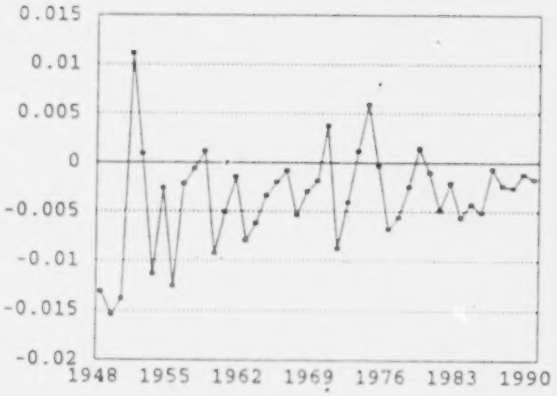
is rarely -.005, as would be implied by a deterministic trend. In fact, for every series, the changes in the variable appear to exhibit a degree of bounded variability. Thus, upon a simple graphical representation of the data, it becomes clear that this stochastic movement of the changes in each series needs to be included in the model of consumer demand.

All of the price variables, measured on a logarithmic scale, exhibit an upward trend over the period of analysis. Again, evidence from the time paths of the changes in prices shows that the upward trend is not a constant. There appears to be a stochastic element in the upward trend. The time paths of the one period changes in the natural log of prices, which is the growth rate in prices, are generally very different. For example, the growth rate of the price of clothing moves about erratically in the early 1950s, tends to increase over the 1960s and 1970s, and stabilizes in the 1980s while the growth rate of the price of food tends to be more erratic in the 1970s and early 1980s.

Many of the interesting features of the time paths of the variables commonly used to describe the consumer decision making process coincide with a specific event or period in history. The fact that the impact of historical events can be seen in the data may be the single most appealing aspect of using time series data to analyze consumption. For example, the beginning of

Figure 1
Food Budget Shares

Figure 2
Change in Food Budget Shares



Medicare in 1966 precedes a period of erratic medical expenditures while the 1973 Arab oil embargo appears to have significantly influenced several of the series. It is well worth stressing that the clear trends or apparent nonstationarity of the levels of most of these variables carries the impact of these and many other historical events (shocks) as a permanent component of their time series behavior. Furthermore, it is also the case that this historical information is all but lost when only the first differences of the series are used in analysis.

Formal Tests for Unit Roots

Simply looking at the time paths of each series is an excellent first indication of the time dependency, or nonstationarity, of a process. However, a formal test of nonstationarity is desirable. In practice, there are several formal tests for unit roots (nonstationarity). Among the most popular of these tests are the Cointegration Regression Durbin-Watson test of Sargan and Bhargava (1983), the Dickey-Fuller (DF) test, and the augmented Dickey-Fuller (ADF) test. The ADF is the most widely used test for a unit root, due to its simplicity and efficiency.

To understand the Dickey-Fuller approach to testing for unit roots it is helpful to consider the autoregressive model,

$$X_t = \beta X_{t-1} + \epsilon_t, \qquad (1)$$

where t=1,2,...T. Equation (1) describes a process that

began long ago, where β is a constant and ϵ_t is a normally distributed, random variable with a mean of zero and a variance of σ^2. The series X_t is stationary if $|\beta|<1$. If $|\beta|=1$, then the series is not stationary, and in the case where $|\beta|>1$, the process X_t is said to be explosive. Most economic series have been found not to demonstrate an "explosive" tendency (Nelson and Plosser, 1982), and, thus, it is common practice to test the null of $\beta=1$ against the one-tailed alternative of $|\beta|<1$. In practice, the null of $\beta=1$ is often incorporated through the first difference of a series,

$$X_t - X_{t-1} = \epsilon_t, \tag{2}$$

which is merely a rearrangement of equation (1). Otherwise, X_{t-1} can be reduced from both sides of equation (1) to obtain

$$X_t - X_{t-1} = \beta X_{t-1} - X_{t-1} + \epsilon_t; \tag{3}$$

thus,

$$\Delta X_t = (\beta-1)X_{t-1} + \epsilon_t \tag{4}$$

or

$$\Delta X_t = \phi X_{t-1} + \epsilon_t, \tag{5}$$

where, $\phi = (\beta-1)$. Ordinary least squares estimates of ϕ can be used to test the null of nonstationarity for X_t, $\beta=1$, or a unit root. The ratio of ϕ to its standard error yields the essential test statistic of the Dickey-Fuller test. If $\phi=0$ in equation (5), then equations (5) and (2) are the same, and the null of nonstationarity, or of a unit root, is not rejected. However, testing for the null of $\phi=0$ poses a unique problem. The distribution of the test statistic does not follow a standard distribution when integrated process are included in the regression (Granger & Newbold, 1974; Phillips, 1986; Davidson & MacKinnon, 1993). Dickey and Fuller (1979) show that the OLS estimates for β are distributed around a value which is in fact less than unity ($\phi<0$). The t-ratio for ϕ does not have a limiting normal distribution. The distribution is so negatively skewed that most of its mass falls below zero. Therefore, the critical values in the left-hand tail are less than those that would be observed in the conventional Student-t distribution. Thus, the usual t-tests are not appropriate for testing the null hypothesis of a unit root ($\beta=1$ or $\phi=0$). Dickey and Fuller, along with others have used Monte Carlo simulations to calculate tables of critical values based on the distributions of the statistics gained from such tests for nonstationarity. These resulting tables of critical values are, in absolute value, higher than normal critical values.

The augmented Dickey-Fuller test is a generalization of the simple Dickey-Fuller test. The general representation of the ADF regression is

$$\Delta X_t = \alpha_1 + \alpha_2 t + \phi X_{t-1} + \Sigma \beta_i \Delta X_{t-i} + \epsilon_t, \tag{6}$$

where t is a time trend. Equation (6) should include as many lagged values of the dependent variable (ΔX_{t-i}) as are necessary to ensure that ϵ_t is white-noise. A Lagrange Multiplier test can be used to test the residuals in equation (6) for serial correlation to ensure that enough lagged values of the dependent variable have been included. Accounting for serial correlation provides a major improvement over what would be an invalid DF-test in the presence of serial correlation. The value of the ratio of ϕ over its standard error in equation (6) is, again, the essential element in the test of the null of nonstationarity, $\phi=0$. Since the serial correlation in the error terms has been fully accounted for by the inclusion of lagged values of the dependent variable in equation (6), the same asymptotic critical values calculated for DF-tests can be used to test the null of nonstationarity (Davidson and MacKinnon, 1993, p. 711). For negative values of ϕ, if the calculated value of the of ratio ϕ to its standard error is larger (in absolute value) than the critical value from the table, which are generally greater than 3, then we reject the null of a unit root (nonstationarity).

Implications of Nonstationarity

For Policy Analysis

To highlight the implications of a unit root in a series, it is helpful to consider the case where the series X_t has been found to be integrated of order one. Thus, X_t can be written as

$$X_t = X_{t-1} + \epsilon_t \quad \text{or} \quad \Delta X_t = \epsilon_t. \tag{7}$$

Similarly, any autoregressive process that has a coefficient ρ equal to one in the equation

$$X_t = \rho X_{t-1} + \epsilon_t \tag{8}$$

is described as having a unit root. Assuming ϵ_t is generated by a white noise process with variance σ^2, then (8) is also known as a simple random walk or Martingale process. Repeated substitution of $X_{t-1} = \rho X_{t-2} + \epsilon_{t-1}$, $X_{t-2} = \rho X_{t-3} + \epsilon_{t-2}$, ... into equation (8) yields

$$X_t = \sum_{j=1}^{T} \epsilon_{t-j}. \tag{9}$$

If ϵ_t is considered to be the result of a shock (*e.g.* a policy change) to this process, then it is clear that this disturbance will have a permanent impact on the series. This is the reason that the term "integrated" is used to describe X_t, which amounts to an accumulation of persistent shocks when a unit root exists.

On the other hand, if X_t was generated by a stationary process, *i.e.*, $|\rho|<1$ in equation (8), then similar repeated substitutions produce

$$X_t = \sum_{j=0}^{T} \rho^j \epsilon_{t-j}, \qquad (10)$$

which clearly shows that the effect of the shocks to the system decrease over time. The significance of this "persistent *versus* diminishing" effect of shocks to a system cannot be overemphasized. If policy recommendations are to be made on the basis of such series, then it is of vital importance to find out whether the variable of interest is a stationary or a nonstationary process. If a nonstationary process is subjected to a shock, then the impact of this shock will be permanent. The repercussions of the policy change will remain in the system, at the strength of the initial impact, forever. Thus, the problems facing the consumer policy analyst are further complicated by permanent changes in the underlying process that she is trying to describe or influence. Therefore, a significant degree of emphasis must be placed on tests for unit roots (nonstationarity) in any policy analysis that uses economic time series.

For Statistical Analysis

The statistical implications of analyzing variables that contain unit roots are as profound and significant as those for policy. Although the mean of a nonstationary process, X_t, may be zero, $E(X_t)=0$, its variance is not constant over time. Using the same repeated substitution used to describe a nonstationary process as an accumulation of persistent errors, the variance of a nonstationary process can be expressed as

$$\begin{aligned} Var(X_t)=&Var(\epsilon_t)+Var(\epsilon_{t-1})+...+ \\ &Var(\epsilon_{t-T}) = \sigma^2 T, \end{aligned} \qquad (11)$$

where it is shown to be growing over time. The variance is no longer a function of time when $|\rho|<1$:

$$\begin{aligned} Var(x_t)=&\rho^0 Var(\epsilon_t)+\rho^1 Var(\epsilon_{t-1})+ \\ &...+\sigma^T Var(\epsilon_{t-T}) \\ &= \sigma^2(1 + \rho + \rho^2 + ... + \rho^T) \\ &= \sigma^2/1-\rho^2. \end{aligned} \qquad (12)$$

The implications for statistical inference are profound, as most aspects of statistical inference rely upon the variance of a process. Once the variance of a process is determined to be a function of time, it can no longer be used reliably in statistical inference.

With respect to modeling with integrated processes, Granger and Newbold (1974) show that test statistics frequently confirm a relationship between integrated variables, even when the processes considered could not possibly be related. Granger and Newbold examine time series which are known to be generated by random walks. They find that when they estimate these spurious regressions between integrated processes, the value of R^2 turns out to be high, and the value of the Durbin-Watson statistic tends to be low, regardless of the existence of any true relationship between the variables. Furthermore, the t-statistics for the estimated regression coefficients imply a rejection of the null of no relationship far more often than is expected.

Phillips (1986), expounding upon Granger and Newbold, considers the basic regression model

$$Y_t = \alpha + \beta X_t + u_t, \qquad (13)$$

where $u_t \sim (0,\sigma_u^2)$ and Y_t and X_t follow a random walk. Therefore,

$$Y_t = Y_{t-1} + \epsilon_t \qquad (14)$$

and

$$X_t = X_{t-1} + \upsilon_t. \qquad (15)$$

Phillips shows that as the number of observations approaches infinity, the t-statistics for β and the value of R^2 in equation (13) approach random variables, while the Durbin-Watson statistic approaches zero. Davidson and MacKinnon (1993) carry out Monte Carlo simulations to illustrate the increasing number of rejections of the null of $\beta=0$ in equation (13) as the sample size increases. With a sample size of 25, the null is rejected 53% of the time. With a sample of 2000, the null of $\beta=0$ in equation (13) is rejected 94.7% of the time. Furthermore, if a drift or a trend is added to the model, the null is rejected 100% of the time after attaining samples of 500 and 100 respectively (Davidson and MacKinnon, 1993, p.672).

Davidson and MacKinnon further point out that rejecting the null of $\beta=0$ does not imply that $\beta \neq 0$ in (13); it only implies that the null is false. If Y_t is a random walk process, it certainly cannot equal, as (13) implies if $\beta=0$, a constant plus a stationary error term; therefore, the null is false to begin with, and the test is invalid from the start. The only way that the equality expressed in (13) can be satisfied when $\beta=0$ is if u_t follows a random walk. Furthermore, if u_t is a random walk (which it is assumed

not to be), then the t-value becomes a function of this integrated process. For that matter, any and all statistics that are functions of these disturbances become functions of random walks (or more precisely, functions of Wiener processes). Obviously, reliable inference cannot be based on statistics that are functions of integrated processes, as these processes are known to have a variance which is growing over time. Given that the model in equation (13) is misspecified, Davidson and MacKinnon estimate

$$Y_t = \alpha_1 + \beta X_t + \alpha_2 Y_{t-1} + u_t, \qquad (16)$$

where (14) and (15) still apply. They find that the null of $\beta=0$ is rejected about 15% of the time, regardless of sample size (Davidson and MacKinnon, 1993, p.672). This result is drastically different from that obtained when the lagged value of the dependent variable is not included in the regression. However, 15% is still three times greater than the usual and acceptable 5% rate of committing a type-one error. This discrepancy further demonstrates the way in which t-statistics from regressions including integrated processes follow non-standard distributions asymptotically. It is clear that a researcher must obtain distributions of the estimates through alternative means (*e.g.* Monte Carlo experiments), in order to conduct reliable inference when integrated processes are involved.

For Modeling

Ultimately, the statistical problems associated with using nonstationary series can be circumvented through the use of a dynamic modeling strategy which relies on tests for cointegration and the estimation of error correction models (ECM). The ECM framework uses only stationary series or linear combinations of series which are stationary; moreover, the ECM model is dynamic in nature and uses both the long-run and the short-run information embedded in trended variables, such as expenditures and prices.

To illustrate the concept of cointegration, which is the cornerstone of the ECM framework, it is helpful to consider a simple equilibrium relationship which can be defined as

$$Y_t = \beta X_t. \qquad (17)$$

If Y_t follows an equilibrium path with X_t, then

$$Y_t - \beta X_t = 0. \qquad (18)$$

However, it is not expected that equation (18) will be satisfied at all times, even if Y_t and X_t are closely related in the long-run. In fact, most of the time, this equality will not be satisfied. This is the case with most economic processes. For example, people rarely spend exactly what they earn; in fact, people rarely spend what they expect or desire to spend. Thus, to illustrate the frequent periods of disequilibrium which clearly take place, it is helpful to write equation (18) as

$$Y_t - \beta X_t = \epsilon_t, \qquad (19)$$

where ϵ_t is the disequilibrium error. Nonetheless, equation (19) shows that the parameters $[1,-\beta]$ work to maintain a constant and unique relationship between Y_t and X_t. Engle and Granger (1987) maintain that if an equilibrium relationship exists, then the values of ϵ_t, or the disequilibrium error, should not be large; in fact, the disequilibrium error should demonstrate a strong tendency to become very small as time passes. Thus, the variables must not drift too far apart when scaled. In this case, the scaled transformations placed on Y_t and X_t are 1 and $-\beta$, respectively. This transformation is called the scaled cointegrating vector $[1,-\beta]$. Accepting that equilibrium relationships are essentially two or more series which are cointegrated, Granger (1983) advocates the use of an error correction mechanism to illustrate the short-run adjustment process toward equilibrium. Thus, Granger argues that an error correction mechanism should be used when modeling in the presence of cointegration, an argument that has become known as the Granger Representation Theorem.

The first requirement in testing for cointegration is that the series in question, must share some level of integration. For example, a series that is drastically trending downward cannot be meaningfully explained by a series that hovers around a constant. Therefore, in the simple regression model

$$Y_t = \beta X_t + \epsilon_t \qquad (20)$$

where $\epsilon_t \sim IIN(0,\sigma^2)$,there will only be a parameter β that satisfies equation (20) if Y_t and X_t are integrated of the same order (*i.e.* requiring to be differenced the same number of times to be made stationary).

The second requirement for cointegration between two series implies that $(Y_t-\beta X_t)$ is integrated to a lower order than Y_t and X_t. This can be tested by testing for the nonstationarity of ϵ_t or changes in ϵ_t in equation (20). Even though Y_t and X_t may exhibit trends, cyclical or seasonal variation, these changes may be closely matched between the series so that, when scaled by $[1,-\beta]$, the difference between the variables shows no such trend or cycle.

If Y_t and X_t are integrated of order one, and $(Y_t-\beta X_t)$ is stationary, then the error correction representation is the proper statistical representation for the relationship, and it contains information on the long-run equilibrium path as well as the short-run adjustment process. A simple error correction representation is

$$\Delta Y_t=\delta+\beta_0\Delta X_t+\lambda(Y-\beta X)_{t-1}+u_t, \qquad (21)$$

where the significance of λ, known as the loading factor, can be used in a further test of cointegration between Y_t and X_t. The loading factor, λ, may capture the speed of adjustment with which consumers are reacting to disequilibrium error. If λ is not significantly different than zero, then equation (21) will contain only short-run information. It is worth noting that equation (21) is easily derived from the simple autoregressive distributed lag model,

$$Y_t=\delta+\alpha Y_{t-1}+\beta_0 X_t+\beta_1 X_{t-1}+u_t, \qquad (22)$$

where $|\alpha|<1$, $\lambda=\alpha-1$, and $\beta=(\beta_0+\beta_1)/(1-\alpha)$ which is the long-run response. If, upon estimation, it is found that the value of α is close to one, and that, therefore, the value of λ is close to zero, then it would be appropriate to estimate the model in first differences only. However, if α is found to be less than one, then a model made up only of first differences will be inadequate with respect to both estimation and forecasting (Harvey, 1990, p.291). In this regard, the term in levels in (21), the error correction term, becomes critical in the description of how the relationship returns to its steady-state or equilibrium. For example, if, at some point, Y_t is subjected to some shock or set of positive disturbances, which cause the series to grow more rapidly than is expected, then the error correction term, $(Y-\beta X)_{t-1}$, becomes positive. If λ is negative, then the net effect is a decrease in the growth of Y_t. Therefore, Y_t is being forced back to its long-run path (Harvey, 1990, p.292).

It is important to emphasize that equations (20) and (21) yield two distinct types of information. Equation (20) gives estimates for the parameters of the long-run equilibrium relationship that is theorized to exist. On the other hand, the estimation of equation (21) yields information on the size and direction of the dynamic adjustment process, through the estimation of β_0 and λ. However, because (20) is imbedded in (21), the estimation of (21) will provide information on both the long-run and the short-run behavior of the variables. This is perhaps the single greatest advantage to using the cointegration framework for modeling consumer behavior. The theory of consumer behavior lacks a time dimension, while the data used in testing this theory is generated over, and is frequently a function of, time.

Conclusion

This paper suggests that the use of unit root econometric techniques may be the best solution to the paradox of using short-run, or dynamic, information to analyze theories that describe long-run, or steady state, relationships. Unit root econometric techniques entail a less conventional modeling approach which involves a search for equilibrium relationships that may exist between certain groups of variables, even though short-run observations on these variables may be time heterogeneous.

It has also been shown that in the presence of unit roots, any transitory policy change may have a permanent effect on the variable of interest. In the case of the consumer, this may imply that information is not forgotten once embedded in the decision making process. Thus, policy makers and consumer educators may need to be even more cautious when implementing programs.

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Endnotes

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The Global Development Project

These materials provide for the integration of global development issues into existing family and consumer economics courses. Each topic -- Measurement, Household Production, Population and Housing & Household Technology -- includes text and an interactive computer exercise.

Roger Swagler, University of Georgia[1]

Global development, and the attendant problems of poorer countries around the world seem far removed from the bustling markets of countries like the United States. Yet the well being of Americans is intertwined with the well being of others around the world. Only one consumer in five lives in a high income country. This affluent minority will surely suffer if some measure of prosperity isn't shared around the globe. That thinking provides the context for this series.

Many faculty members recognize that most students are sadly unaware of global development issues. However, the absence of appropriate materials and curricular limitations hinder course development. *The Global Development Project* deals with both problems. It provides materials which are flexible and may be adapted to the needs of individual faculty. New courses are avoided by integrating global development into existing coursework. Lessons are geared to students with little background or understanding of global issues.

Each lesson module contains textual material and an interactive computer exercise. The text can be used by students or could serve to augment lecture notes. The computer exercises are on *Authorware*, an interactive program which can be run on any recent MacIntosh computer. No additional software is needed to run the programs. Guided by on-screen instructions, students load the disk and then work their way through the exercises (lessons may also be loaded onto a network). Students make choices, receiving feedback as they go. The exercises provide drill in an interactive environment which gives students "hands-on experience" with the material.

The first module is *Measurement & Classification*. "Measurement" refers to well being and "classification" to the distinctions between the richer countries of the *North* and the less developed countries of the *South*. The *Household Production* module is the most straightforward, developing the model in textbook fashion. The module could be used as part of any introduction to household production, with added applications to the South.

The emphasis in *Population Issues* is on the different demographic patterns in the North and South and the forces behind the latter's higher population growth rates. Coverage of fertility links the material to household production. Subject matter for the *Housing and Household Technology* module links the latter with the larger issue of energy use and related questions of sustainable development. Coverage of housing is linked to policy.

The modules may be used in a variety of ways. Taken together, they constitute a set, but each one stands alone and may be used separately. Thus, individual modules may be used in different classes. Regardless of how they are applied, the materials offer a flexible way to use new educational technology while incorporating increasingly important content into existing courses.

Acknowledgements

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Endnote

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Helping Families Managing Finances

University of Illinois Cooperative Extension Service helps families manage finances with two low-cost self-study programs - Getting Through Tough Times and Take Control of Your Finances.

Charlotte F. Crawford[1] Lois E. Smith[1] Sandra Stiles[1] Susan Taylor[1]
University of Illinois Cooperative Extension Service

Getting Through Tough Times

Target Audience

Getting Through Tough Times is a comprehensive, self-study packet of 19 fact sheets to help individuals/ families experiencing economic or personal crises (i.e. unemployed, under-employed, divorced, widowed or a single parent). Educators, specialists and practicing professionals, including Wisconsin Extension's "Managing Between Jobs Program", 1989, offer an interdisciplinary approach to solving problems families in crises face.

Description

Getting Through Tough Times gives individuals and families the tools they need to help them through times of stress and change.

The fact sheets provide a range of information from strategies for spending less, meeting insurance needs, keeping a roof overhead, talking with creditors, and starting a small business. Dealing with stress resulting from financial difficulties and helping children through crises are discussed. Information on community resources and utilizing personal assets family members can provide is also included.

A user's guide for professionals is available to facilitate successful collaboration and implementation of the program. Marketing strategies include a promotional brochure, news releases, public service announcements, and an evaluation.

Take Control Of Your Finances

Target Audience

This program is currently offered to individuals/families throughout the state of Illinois. The initial audience for the series is middle income families. Secondary audiences include: parents of young children, low-wage employees, and divorced individuals.

Description

The Take Control Of Your Finances learning series is designed to help individuals/families improve financial management skills through self-study.

Subscribers to the Take Control Of Your Finances learning series are mailed a series of six fact sheets, one every week for six weeks. Topics include: determining what is important to you; evaluating your financial situation; developing a spending plan; using credit; saving to reach goals; and organizing a home financial center. Each fact sheet includes an activity to enhance learning and get participants started on their way to taking control of their finances. Examples of learning activities include: setting short and long term goals; recording expenditures for a month; making a spending plan; identifying annual percentage rates of credit; and organizing financial records.

This approach to learning at home has several advantages. There are no meetings to attend. Families can study and discuss the fact sheets at their convenience in the privacy of their own home. Participants can access their records at home and work through the material at their own pace.

End note

1. Extension Educators, Consumer and Family Economics

Consumer Satisfaction with Complaint Handling Procedures of the Consumer Protection Section of the Louisiana Attorney General's Office

Satisfaction with complaint handling procedures of the Consumer Protection Section of the Louisiana Attorney General's Office (CPSLAGO) was determined. Overall, 40% of the respondents were satisfied with how their complaints were handled. Similarly, 41% were dissatisfied. Satisfaction was negatively related to income and education.

Ann M. Crawford, Louisiana State University[1]
Frances C. Lawrence, Louisiana State University[2]

The purposes were to determine a) satisfaction with complaint procedures of the Consumer Protection Section of the Louisiana Attorney General's Office (CPSLAGO) and b) relationships between satisfaction and selected variables. A survey questionnaire designed by the researcher was used for data collection. The Dillman (1978) "total design method" was adapted for administration of the questionnaire. In the spring of 1994, 133 survey questionnaires were mailed to persons who had filed complaints with CPSLAGO during the period of September 1, 1993 through November 30, 1993. Ninety-nine subjects responded, resulting in a 74% response rate.

Data were analyzed using frequency distributions to determine the number of respondents at each level of overall satisfaction and satisfaction with specific aspects of services. Simple linear regression and analysis of variance were used to test for relationships between satisfaction and selected variables. Analysis of covariance and logistic regression were used to explore models for predicting overall satisfaction with how complaints were handled. The level of significance was $\alpha = .05$.

Approximately one-fourth (27%) of the respondents reported being very satisfied with how the complaint was handled by the CPSLAGO. Thirteen percent were somewhat satisfied, 20% were uncertain. Eleven percent were somewhat dissatisfied, and 30% were very dissatisfied.

Respondents were most satisfied with the courtesy of the personnel (79%), followed by ease of completing the complaint form (78%), professionalism of the personnel (76%), and thoroughness of the complaint form (70%). Respondents' satisfaction was lower with the length of the complaint form (65%), knowledge of the personnel (60%), response time (59%), and helpfulness of the personnel (57%).

Overall satisfaction with how complaints were handled was related negatively to income and educational level. As income increased, level of satisfaction decreased. Similarly, as level of education increased, level of satisfaction decreased.

Neither satisfaction with response time nor satisfaction with the complaint form was significantly related to any of the selected variables. Satisfaction with the personnel was negatively related to educational level. As level of education increased, level of satisfaction with the personnel decreased.

A major benefit of the current study is the potential for the CPSLAGO to enhance the effectiveness of its services to consumers. In addition, using suggested improvements to the questionnaire, the study could be replicated nationwide to evaluate other states' consumer complaint handling services.

Endnotes

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Do Managed Care Health Benefits Plans Benefit Consumers?

Managed Care Benefits Plans add another layer to the complaint process. Consumers take various routes to resolving their dissatisfaction. Regardless of consumer complaints, between 20 and 56% of complaints go unresolved.

Jane Kolodinsky, The University of Vermont[1]

A study of enrollees in a managed care benefits plan was conducted 1 1/2 years after a move to managed care. A mail questionnaire was sent to all 2584 eligible employees and 1255 were returned complete (48% response). Information regarding general satisfaction with benefits was collected. When a consumer indicated they were "less than satisfied," (reporting an average satisfaction level of 5 or less on a scale of 1 to 10 when asked about their MOST RECENT experience), information was collected on the cause of dissatisfaction, types of redress they sought, and resolution rates. Primary care physicians and managed care representatives are the focus of this report.

Dissatisfaction Levels Differ

1. Appointment scheduling is the greatest cause of dissatisfaction with primary care physicians (29%).
3. Billing is the greatest cause of dissatisfaction with managed care representatives (12.6%)

Complaint Types Differ

1. Consumers tend to complain most often to the components of the plan they believe caused the problem.
2. Consumers are more likely to complain when the problem is with managed care representatives than with a physician.
3. Consumers complain to more than one component of the plan regardless of who they believed caused the problem.
4. 20% did nothing about problems with managed care representatives. 56% did nothing about problems with physicians.
5. About 20% of consumers switched providers.

Resolution Rates Are Not Great

1. Problems with managed care representatives are more likely to be resolved than problems with physicians (70% and 50% resolved).

Managed Care Adds A Layer To the Complaint Process

1. Managed care representatives were complained to regardless of the problem area.
2. Managed care representatives solve between 5% and 8% of problems.
3. 23.8% of consumers are dissatisfied with managed care representatives lack of response to their inquiries.
4. It appears to be unclear to many consumers to where they should complain when dissatisfied.

Dissatisfaction rates, complaints to physicians, and resolution rates are comparable to previous findings (Andreasen 1985; Singh 1991; Kolodinsky 1993). However, whereas switching physicians has been a method of "voicing" complaints in the past, this study shows that under managed care, the option declines compared with previous findings. Consumers need more information about where to go about problems if managed care is to be a true benefit to them.

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Endnotes

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University of Illinois Cooperative Extension Service Environmental Consumer Education Program

Illinois' consumer environmental education program educates both consumers and educators and includes both a research and a public policy component.

Brenda Cude, University of Illinois[1]

The University of Illinois Cooperative Extension Service has developed and implemented a comprehensive environmental consumer education program. The goal is to assist consumers in analyzing the tradeoffs necessary to incorporate environmental concerns in their purchase, use, and disposal decisions.

The program assumes that environmental consumer behavior should be based on a hierarchy of four "R" behaviors - reduce, reuse, recycle, and respond. The primary program materials are an eight-unit curriculum and a three-part video. The teaching materials for each unit in the curriculum include a teacher's guide, a major lesson, fact sheets, activities, and overhead transparency masters. The curriculum is intended for use with adults and while it can be use in the classroom, it is very appropriate for informal education. Topics include packaging, life cycle analysis, household hazardous waste, and food safety issues in reuse.

An important component of the University of Illinois program is improving the effectiveness of educators. Basic principles of effective environmental consumer education (see Cude, 1993b) are the focus of Part 1 of the video.

Part 2, "Packaging," describes the functions of packaging and features the preferred packaging guidelines of the Northeastern Coalition of Governors. Part 3, "Health and Safety Issues," spotlights university faculty responding to questions about various issues including household hazardous waste, composting food waste, and safe consumer reuse of packaging.

The environmental consumer education program also has a public policy component. The University of Illinois Cooperative Extension Service collected survey data from over 1,000 consumers in 1992 to provide data on consumer perceptions of environmental terms to the Federal Trade Commission and the Environmental Protection Agency (Cude, 1993a). The data we provided were influential to the FTC in their development of the environmental marketing guidelines they ultimately issued.

The program development and implementation have created a coalition of the Cooperative Extension Service, the Illinois Recycling Association, the Illinois State Department of Energy and Natural Resources, and others. Educators who were working toward the same goal independently are now networking.

Appendix

For more information on the Consumer Environmental Education Curriculum and the video ("Making Choices With the Environment In Mind") write University of Illinois, 67-ES Mumford Hall, 1301 W. Gregory Drive, Urbana, IL 61801 or phone 217/333-2007.

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Endnotes

1. Associate Professor, Division of Consumer Sciences.

Buying a Car with Credit: Credit Education for Limited English Proficient Consumers

Jean M. Lown, Utah State University[1]
Carmen D. Steggell, Utah State University[2]
Susan W. Chandler, Utah State University[3]

Four Key Points

1. The video targets a growing group of new Americans who need consumer education. Refugees, immigrants, and international students often enter the United States with poor English language skills, limited financial resources, and negligible understanding of U.S. consumer credit practices.

2. This video teaches limited English proficient (LEP) consumers about the U.S. credit system, with a focus on how to buy a car. LEP consumers learn how to get a loan to buy a car, sources of loans, requirements for obtaining credit, how to compare APR and fees, how to establish credit, and what to do in the event of difficulty in repayment. Although targeted at the LEP audience, the information is valuable for all consumers.

3. The educational packet consists of three parts. First, we provide a lesson plan to guide leaders in teaching about U.S. credit practices, specifically in the purchase of a car. Instructions are provided to assist teachers in working with LEP audiences. Second, we include a 20-minute video, "How to Buy a Car with Credit." The video follows a couple as they purchase a car with credit and features Asian and Hispanic actors and simple English. The video is an integral part of the lesson plan and is intended to be shown to groups of LEP consumers. Third, we provide a brochure which outlines the process of buying a car with credit and includes a glossary of credit terms which may be unfamiliar to LEP readers.

4. How To order: Mail $25.60 for the complete package (lesson plan, video, and 75 brochures) or $12.75 (video and 25 brochures).
$_____ enclosed.
Name:_____
Address:_____
City:_____ State:___ Zip:____

SEND TO:
Carmen D. Steggell, Ph.D.
Department of Human Environments
Utah State University
Logan, UT 84322-2910.
Phone: (801) 797-1594
Fax: (801) 797-3845

Make check or money order payable to Dept. of Human Environments.

Acknowledgements

"Buying a Car with Credit" was produced with the support of the National Coalition for Consumer Education NCCE/AT&T Credit Education Fund, Utah Bankers Association, and USU Community Credit Union.

Endnotes

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Amidst the Transition: Living the Fulbright Experience

This presentation summary highlights my inspiration in applying for a Fulbright Scholar grant, and my project in the Czech Republic. Brief information about the Fulbright program is also provided.

Thesia I. Garner, U. S. Bureau of Labor Statistics (BLS)[1]

Early images from my childhood of the realities and tragedies of an occupied land, and the encouragement of a graduate school professor and his wife sparked me to apply for a Fulbright Scholar grant. In 1989, the Berlin Wall fell, along with the totalitarian regimes of EG and other countries in the region, I knew I wanted to be *amidst the transition*.

In 1991, I applied for a Fulbright award and one was granted. In December of 1992 I moved to Prague in the Czech and Slovak Federal Republic (the country split into the Czech Republic and Slovakia on 1-1-93). I was with the Institute of Sociology, Czechoslovak Academy of Sciences. I worked with Jiri Vecernik and his team in the socio-economics group. My project was to examine changes in the distribution of income and expenditures of individuals and households during the early years of the transition, 1989 and 1992.

My dream had come true. However I had planned carefully for this dream, and had received the help of many individuals.

The Council for the International Exchange of Scholars (CIES)administers the Fulbright Scholar program. Every year about 1,000 awards are made for scholars to visit in 135 countries. The program was instituted in 1947.

CIES suggests strategies for a competitive application. These include: prepare an application as an integrated coherent argument for your candidacy; make the project statement the focus; be sure your CV and publications list reinforce the project statement; choose references who can attest to your abilities in terms of the project; and follow the application guidelines closely.

As last words I recommend that you *listen* to your dreams. If you want them to come true, *allow* them to give you direction. Then your dreams can *become* reality.

Acknowledgements

In preparing this poster I thank Keith Tapscott of the BLS.

Endnotes

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Expenditures of Rural and Urban Baby-Boomer Households

This study examines locality as a factor that may influence boomers' expenditures. Results show that most expenditures differ significantly for the boomer cohort when locality is considered.

Julia M. Dinkins, U.S. Department of Agriculture[1]

Introduction

One-third of the U.S. population consists of baby boomers (born between 1946 and 1964). The economic status of members in this large cohort has raised concern about the adequacy of public and private financial resources that will be available to them during retirement. Boomers who may be economically vulnerable during old age include those who are younger (born 1955-1964), have less than a college education, are renters, have relatively little wealth, are without employer pensions, and are single parents (The Congress of the United States, 1993; Kingson, 1992). Most research has not focused on locality as a factor influencing boomers' economic well-being.

Methodology

Using expenditures as the measure of economic well-being, this study examines differences between rural and urban boomers for total expenditures and expenditures for housing, transportation, total food, food at home, food away from home, personal insurance and pensions, apparel, education, and miscellaneous goods and services. The 1991 Consumer Expenditure Survey, an ongoing survey of a national sample of consumer units, was used to examine boomer householders' expenditures. A total of 8,627 rural and urban boomer respondents were selected for analysis.

Results

Results show that overall, rural boomers spent $26,914 and urban boomers spent $30,997 ($p \leq .001$). Student's *t*-test results revealed that compared with urban boomer householders, rural boomer householders spent significantly less ($p \leq .001$) for housing ($7,271 vs. $10,376), total food ($4,505 vs. $4,843), food away from home ($1,067 vs. $1,236), apparel ($1,344 vs. $1,610), education ($394 vs. $576), and personal insurance and pensions ($2,843 vs. $3,512). Expenditures for food at home, transportation, and miscellaneous goods and services did not differ significantly for rural and urban baby-boomer householders. Differences in baby boomers' expenditures by locality show that rural versus urban living is related to their economic well-being.

Conclusions

Results are useful to financial planners and extension specialists who work with diverse families in rural and urban areas. Focusing on the relationships among locality; economic priorities; and the development of human capital, home ownership, housing type, and pensions will help members of this cohort develop short- and long-term economic goals that will enhance their economic well-being.

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Endnote

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A Model to Predict Satisfaction with Continuing Care Retirement Communities

Aimee D. Prawitz, Northern Illinois University[1]
Frances C. Lawrence, Louisiana Agricultural Experiment Station,
Louisiana State University Agricultural Center[2]
Patricia J. Wozniak[3]

Support for the proposed model lends additional strength and verification to the Deacon and Firebaugh (1988) and the Engel, Blackwell, and Miniard (1990) conceptual models upon which it was based. The combination of these two models as a theory base lends itself to additional studies of families in their role as consumers.

The purpose was to develop and test a model to predict satisfaction with consumer selection of continuing care retirement communities (CCRCs). The family resource management conceptual framework of Deacon and Firebaugh (1988) provided the theoretical base for development of the proposed model. Another area of study, consumer behavior, was drawn upon to find pertinent indicators for the decision-making component of the model. Constructs of the Engel et al. (1990) consumer behavior model were incorporated to represent the managerial aspect of the family resource management model. The model was tested by applying it to the CCRC selection process of consumers.

A random sample of 75 CCRCs, stratified by regions of the country, was drawn. Administrators of 22 of the CCRCs drawn agreed to participate by providing names and addresses of residents who had joined the CCRC within one year of the start of the study. A questionnaire designed by the researcher and based on Dillman's (1978) "total design method" was mailed to 650 subjects. A follow-up mailing sequence was implemented, and 374 usable questionnaires were returned, for a response rate of 58%.

Factor analyses were performed, and factor scores were used to represent groups of variables in the model. Four hypotheses were tested using multivariate multiple regression analysis, and univariate tests were performed to assist in interpretation of the multivariate tests. The hypotheses included: a) the managerial process of consumers selecting a CCRC will be predicted by resources and demands; b) knowing the resources and demands of consumers selecting a CCRC will help predict satisfaction with the CCRC and its characteristics; and c) knowing the managerial process used by CCRC consumers will help predict satisfaction. The primary hypothesis was that given input, the addition of the throughput component (the managerial process of CCRC consumers) to the proposed model would increase the ability to predict satisfaction. Each of the four hypotheses was supported.

A major finding of the study was the positive relationship between use of search strategies and satisfaction, indicating that consumers using an effective search process were more satisfied with the CCRC and its characteristics. Examination of the current study's expansion of the theory can assist researchers and educators in better understanding how CCRC consumers use resources to advantage for achieving desired goals.

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Endnotes

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3. Statistical Consultant.

Long-Term Care Options and Their Effects on Wealth Holding of the Elderly

This study was based on the strategic bequest motive model first introduced by Bernheim, Shleifer and Summers[BSS] (1985) and designed to examine whether the elderly with and without children behave differently when allocating their wealth in order to maximize utility regarding their future long-term care. The results of this study do not support the hypothesis, however, some findings are suggestive for future policy studies.

Yuri Yoshida, University of Wisconsin[1]

In the U.S. there is a variety of long-term care options, but each is not equally available to all elderly. The different long-term care options have different advantages and disadvantages and parents entering retirement will want to assure not only high quality care but flexibility in choices. Among several key differences between long-term care by children and that provided by others is the periodic pay requirements of nursing home care whole children may expect to be compensated through ex post bequests. Because the elderly with children face the additional care option, they are expected to take the advantages and disadvantages of this form of care into account in the financial plans for their retirement. The elderly structure their resources in order to assure future access to good quality care, given financial constraints and the options available. The study is motivated by the strategic bequest literature first introduced by BSS. The model hypothesized that parents attempt to obtain as much attention as possible from their children with give constraints.

The data used for this study are from the Social Security Administration's New Beneficiary Survey, linked to SSA Master Beneficiary Records. The sample is of nondisabled married male retired-worker beneficiaries, both spouses age 63 and older, and with no other person living in the household. This selects a group for whom financial planning against uncertain long-term care needs is an issue. Using Ordinary least Squares, the percentage of wealth held in bequeathable form are examined. Nonbequathable wealth is defined as the present value of pension and social security benefits for which each individuals and spouse is eligible.

Independent variables are structured to take account of lifetime wealth accumulation, consumption expenditures, presence of minor children, and parent's age and health status. The variable of focus is the existence of adult children. The model was tested on the full sample and the three groups with different wealth levels.

Although no evidence supporting the model was found, wealth allocation behavior was found to be different at different levels of wealth. The model appears least suited for the highest wealth group. This may be because long-term care financing may not be a major concern to those elderly. On the other hand, wealth allocation behavior of elderly in the low wealth group conforms to the expected influence of Medicaid provisions for financing long-term care. Theses couple were more likely to hold additional wealth dollars in bequeathable forms that could be excluded or transferred in establishing eligibility. Findings also suggest myopic consumption behavior on the part of this lowest wealth group. It may be the elderly with moderate wealth who gain most by behaving strategically as the model suggests.

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Endnotes

1. Graduate Student, Department of Consumer Science.

Key Concepts In Consumer Economics Textbooks

This study examined the amount of coverage of basic consumer economic concepts by college-level consumer economics textbooks. The content was defined by the test questions used on the nationwide test of consumer knowledge of high school students sponsored by Consumer Federation of America and American Express Company.

E. Thomas Garman, Virginia Tech[1]
Annette L. Bach, North Dakota State University[2]

This study compared the degree of emphasis in college-level consumer economics textbooks on the six content areas of the nationwide test of consumer knowledge of high school students sponsored by Consumer Federation of America and American Express Company (1991). The areas were: (1) credit, (2) checking and savings accounts, (3) auto insurance, (4) housing rental, (5) food purchases, and (6) car purchases.

The test questions covered rudimentary, rather low-level consumer economics concepts (such as shopping, buymanship and renting), rather than higher-order knowledge. This is logical since the test was designed for high school use.

Procedures

Procedures of this study included creating brief narrative descriptors of the content covered by the test questions, examining the associated content for each book for the six areas, and assessing the degree of the amount of the content in each book using a five-point scale (thorough coverage being a 3 while zero coverage equaled a 0). Therefore, the highest rated text would receive a score of 18.

The college-level consumer economics textbooks and their respective rating score follows: (1) Leet, D. R., and Driggers, J. (1990), Economic decisions for consumers (2nd edition), MacMillan; 15 points, (2) Miller, R. L. and Stafford, A. D. (1994), Economic issues for consumers (7th ed.), West; 13 points, (3) Garman, E. T. (1994), Consumer economic issues in America (3rd ed.), Dame Publications; 6 points, (4) Zelenak, M. J. (1993), Consumer economics (10th ed.), Publishing Horizons; 5 points, and (5) Walden, M. L. (1992), Economics and consumer decisions, Prentice Hall; 4 points.

Findings

These data make clear that only two of the five college-level consumer economics textbooks covered the concepts considered important on the nationwide test of consumer knowledge with any degree of completeness. The other four textbooks largely skipped over the concepts. The knowledge areas may have been omitted in the college texts because the authors assumed that college students would have already been exposed to the basic concepts or because they believed such rudimentary coverage would be inappropriate at the college level.

A table showing the ratings of the textbooks and an annotated bibliography of other related titles is available from: E. T. Garman, Virginia Tech, HIDM Dept., Blacksburg, VA 24061-0424.

Other Consumer Related Books

Other useful consumer related college-level books include Anton, Bennett and Widdows, Inbound Customer Call-Center Design (Dame); Bryant, The Economic Organization of the Household (Cambridge University Press); Magrabi, Consumption Economics (Praeger); and Meier and Garman, Regulation and Consumer Protection (Dame).

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Endnotes

1. Professor of Consumer Affairs
2. Professor Emeritus Extension

Using Multimedia to Teach Consumer Economics and Personal Finance

Multimedia can be a very effective method of presentation for consumer related classes. Recent advances in technology have made it possible to replace standard black and white overheads with colored images including graphics, animation and photographs. Students response to this presentation method is very positive and quiz scores have increased.

Virginia W. Junk, University of Idaho[1]

Why Use This Method?

As teachers we are continually looking for ways to attract and retain students' interest and increase their learning. Since summer school, 1994, I have been using a multimedia presentation method in personal finance and consumer education courses. Most students are used to the standard lecture and black and white overhead format. Continual use of this method can result in lagging attention and decreased participation in class discussions. Using a creative, state of the art presentation method has many advantages that make the additional time spent in class preparation worthwhile.

Advantages of Using This Method

* It attracts and holds students' attention through the use of color, movement, and graphics. Most students equate high tech with important or current information.
* Students learn about pedagogy as well as course content.
* Software options are available that are user friendly and of a reasonable cost.
* It is easy to change content and order of a presentation as course materials are updated or the flow of information is changed.
* You can progressively disclose items rather than having to use paper to cover part of the overhead.

Disadvantages of Using This Method

* Cost for the LCD and notebook computer is about $7,000.
* It initially takes about ten hours of preparation time per chapter.
* Equipment may need to be carried to the classroom, and time needs to be allowed to set it up before class and to take it down after class.
* Security, shared use, and storage of the equipment must be planned.
* Some classrooms do not let you limit the amount of ceiling light on the screen.
* Unless you have a remote control you need to stay where you can touch the spacebar to advance to the next overhead.
* Copyright issues must be considered if you use pictures, cartoons, and the like.

Other Considerations

* Use high contrast colors.
* Use consistent fonts and font sizes of 28 pitch or greater.
* Visuals should have a limited amount of text.
* Choose graphics that enhance your point.
* Prepare handouts students can purchase with the graphics and note-taking space so they can listen and discuss rather than copying what is on the screen.

End Note

1. Associate Professor, Consumer Affairs, School of Family and Consumer Sciences

The Role of Family Economics Research in Developing State Policy

This workshop, sponsored by NCR-52, the North Central Committee on Family Economics, discussed family economics research projects being used in the development of state policy. Ideas for making contacts within state government were presented as well as the advantages and disadvantages of doing this type of research.

Steve Garasky, Iowa State University[1]
Cynthia Needles Fletcher, Iowa State University[2]
Robert O. Weagley, University of Missouri-Columbia[3].
Ann Coulson, Kansas State University[4]

One of the objectives of NCR-52, the North Central Committee on Family Economics is to encourage and facilitate family economics research at the state and regional levels. The committe has established a goal of encouraging greater use of family economics applied research in the development of state policy. Currently, there are a number of family economists working with state agencies to assist in the development of policy. There are several mutual benefits of conducting policy research. The development of state policy is not only a good use of family economics research, state agencies may serve as good funding sources for family economists.

Child Support Enforcement, Garasky

I began at Iowa State University in the Department of Human Development and Family Studies (HDFS) in January 1992. Prior to arriving at ISU, I was an Economist for the U.S. Department of Health and Human Services (HHS) in the Office of the Assistant Secretary for Planning and Evaluation. Our office focused on policy and evaluation issues related to the programs operated by HHS. My responsibilities generally centered around policies related to the Aid to Families with Dependent Children program (AFDC) and child support enforcement. I mention my background because it has had an impact on my ability to get involved with state policy development.

Shortly after arriving in Iowa, it became clear to me that our department and the state had two things going for it that were going to help me get involved in state policy. First, HDFS has a long history of working with the state, and specifically the Department of Human Services (DHS), on policy research. The State Standard of Need project of which Cindy Fletcher will speak is a wonderful example. Second, the state of Iowa is a child support enforcement leader. The state director, Jim Hennessey, is extremely interested in establishing a strong research base on which to develop policy.

I spent a large part of my first summer in Iowa (1992) introducing myself to various state government representatives. Jim Hennessey was one of the persons I contacted. By the time we actually met, Jim had become familiar with my work and I had become familiar with a state legislative mandate his unit had to study the possibility of implementing child support enforcement reform in Iowa. Additionally, we were both aware of a funding mechanism that would allow me to obtain funds to do child support related research at no cost to the state. The way it works is that for every dollar the state puts up for child support related research they can draw down two matching federal dollars. For my research ISU provides the state match through items such as my salary and benefits, computer expenses and indirect costs. As a result, the state gets my work at no cost to them and I get to do funded research.

This funding mechanism is appealing to the state for all the obvious reasons, and one more. Many of the legislated state child support enforcement related mandates are unfunded. I represent a way for the state to get this additional work accomplished without pulling resources from other areas.

I began doing policy related research for DHS in the Fall of 1992. I have been the Principal Investigator in all consequent work.

The first of three projects that I have worked on for the state was this state mandate to study child support reform implementation. Specifically, the state was interested in the feasibility of implementing a reform that is known as a Child Support Assurance System. In the report to the state I discussed issues such as defining the parameters of the system (e.g. program eligibility, size of benefits, ...), program costs as they related to the size of benefits, and how the reform might affect other programs

such as the state AFDC program. In the end, the state did not implement the reform for two primary reasons.

First, the federal government never authorized funding for state demonstrations of the reform. The state was not going to implement changes to the child support enforcement system without the support of federal funding.

Second, at this same time Iowa was considering, and recently implemented, a major welfare reform initiative. The thinking was that introducing state child support reform on top of state welfare reform was not a good idea.

I currently have two other projects with the state. First, I am developing a state level microsimulation model that will be used to forecast staffing needs relevant to program changes and policy initiatives. Uses of the microsimulation model are to include allocating current staff, providing justification for staff requests, and conducting cost/benefit analyses. Along with developing this model, I am to make recommendations regarding how to staff a local child support recovery unit. Two local offices have agreed to pilot the recommendations. I will conduct the evaluation of this demonstration. The project is tentatively scheduled to be completed in 1999.

The second current project is much more short term in nature. The state has mandated that DHS begin to charge fees to non-public assistance clients for child support related services. I have been contracted to conduct a study that looks at if and how other states charge fees, and what the costs are to the state of Iowa for providing services to these people. I also will be drafting text to amend the State Code in this area. The report and draft text are due to the state June 30, 1995.

Along with discussing funding and specific projects, I would like to conclude this essay with discussions of the research potential of these projects and some of the intangible benefits I have received. I see much of my work for the state to be unpublishable. Often the issues and analyses are too state specific. On the up side, some of my work has received wide distribution in the policy world. For example, I learned from a former colleague that my study of Child Support Assurance in Iowa was mentioned at a Congressional hearing. Several states have asked for copies of that report. I have established a strong policy and research network as a result of my work for the state.

Another benefit of working with the state is the data to which I have been given access. For example, for the microsimulation project I have access (once all case identifiers have been removed) to the automated state child support enforcement case files. While these data are state specific (only Iowa), they offer a wealth of child support related information that I have not seen anywhere else. I have begun to use these data to conduct publishable research.

Finally, I have learned a tremendous amount from my work with the state. As a former bureaucrat, I had an understanding of how policy is developed within a federal bureaucracy. State level policy development is in many ways different. I have a much stronger appreciation for the work of the Department of Human Services after having worked with them. I also have a better understanding and appreciation of how local child support recovery units operate after having visited some of them. All of this will carryover into my research.

Standard of Need, Fletcher

Family economists have an important role in forming state policies. The process of conducting policy research can expand the expertise of family economics researchers, create professional linkages with policy makers, and improve the quality of life for individuals and families.

Policy Research

There are differences between traditional academic research and policy research. The research process, time lines, criteria used for decision making, and methods of disseminating results take on new dimensions in the policy arena.

Policy research should be viewed as more a process than a product. Booth (1988) identifies four phases, each of which may contribute independently to the making of policy: discussing and articulating issues; collecting data; producing the report of findings; and disseminating results. Policy researchers look for opportunities for learning and discovery at each phase in the research process. Throughout the process, it behooves researchers to involve end-users. The greater the involvement of researchers with end-users, the more likely it is their research will be used. Policy research provides enough information with a sufficient level of confidence to illuminate the options and choices facing the policy-maker (p. 249). While presenting the traditional academic researcher new challenges, entrance into the world of policy research can yield numerous rewards.

Linkages to State Agencies

Undoubtedly, the hardest part of state policy research is taking the first step to link with policy-makers. Family economists at Iowa State University benefit from several different linkages with state policy-makers. Since the 1960s, state government

has relied on ISU researchers to formulate recommendations for the income guidelines and payment structures for Iowa welfare programs. Over the years, five studies have been conducted by ISU family economists to estimate the income guidelines, referred to as the 'need standard', for the Aid to Families with Dependent Children (AFDC) program. The most recent study was completed in 1995 (Fletcher et al., 1995). It should be noted that the Family Support Act of 1988 requires each state to reevaluate the need standard and payment standard for the AFDC program at least once every three years. This particular study, required by federal law, could provide 'the foot in the door' for building linkages between family economists and policy-makers in many states.

ISU's involvement in state policy research has expanded rapidly since the late 1980s. A formal administrative structure, the Child Welfare and Training Project, was established in 1988. From an initial study on the predicted demand for foster care services, the project has grown into a broad-based training and research unit with a multi-million dollar budget. Funding relies heavily on federal formulae that allow university overhead to be used to draw federal dollars on a two to one match basis.

Finally, the informal networks or linkages that evolve among university faculty, legislators, and agency personnel should not be overlooked. Undoubtedly, it is these personal ties that foster professional activity.

1995 Standard of Need Study

The 1995 Iowa Standard of Need study serves as one illustration of the policy research process. The objective of this research is straightforward: to establish recommendations for the Standard of Need for the State of Iowa's Family Investment Program, formerly Aid to Families with Dependent Children (AFDC). The Standard of Need is defined as the minimum monthly, after-tax income needed by a family to meet basic needs.

The Iowa administrative code defines needs to include: housing, household supplies and replacements, food, clothing, personal care and supplies, medicine chest items, communication, and transportation. The time line for the research was short. A contract was signed with the Iowa Department of Human Services (DHS) in June, 1994 and a final report was submitted on February 15, 1995. In order to complete this type of research under such a short time frame, it is important to budget both sufficient faculty and graduate student time. Time extensions, while common in traditional academic research, are typically not appropriate when conducting policy research. Findings are needed to feed into on-going legislative cycles.

Our research process involved an eclectic methodology. We used a market-basket approach for most cost estimates, collecting Iowa data on housing and utility costs and using USDA food plans for food estimates. Consumer Expenditure Survey data were used for many of the consumption items that represent small portions of the need standard. Our data collection and analysis decisions clearly illustrate Booth's description of policy research as a process that provides enough information with sufficient level of confidence to illuminate options and choices facing policy-makers. Working as a research team, we constantly made judgment calls that reflected our goal of producing useful, understandable and timely findings. Dissemination of our work has been done in two ways.

First, we met with DHS administrators to discuss findings and answer questions. Second, a final report was submitted. It is organized so that a one-page executive summary and an eight-page summary and recommendation chapter precede chapters that provide technical details. Policy researchers should choose a mode of dissemination that reflects the needs and characteristics of the users. It has been our experience that face-to-face meetings or discussions throughout the research process are important. Our goal was to provide a final report that held no surprises for the end-user.

Results

Findings from the 1995 Standard of Need study recommended 10 to 19 percent increases in income guidelines, but based on our conversations with DHS it appears unlikely that any change will be made during this legislative session. In contrast, the recommendations from our 1991 study were accepted and dramatic increases in Iowa's need standard went into effect in 1991. Booth (p. 255) offers the following advice to policy researchers who work diligently and "still find their work has little impact should not lose heart, remembering that while it is right for them to believe in the value of what they do it is arrogance to have too much faith in its importance."

Child Care Costs, Weagley

Initially, Peter Mueser, Department of Economics at Missouri University, was contacted by an employee of the Missouri Division of Family Services with regard to research on the effect of welfare on the cost of day-care in the state of Missouri. The employee is a former student of Dr. Mueser's. Given that he was on leave and we had previously worked together, he contacted me to join as co-principal investigator on the project. Moreover, he was emphatic that the project be

credited to my department and college as the subject matter match was better.

Once the contact had been made and our collective energies focused, we began to develop a proposal. During opening discussions with Greg Vadner, Director of the Division, and the administrative and data assistants directly involved with child care subsidies, we ascertained their concern and the character of the available information. Moreover, we secured a commitment from each party as to their willingness to assist us in data retrieval and with answers to potential policy questions. In response to a written request, the proposal included each of the following: a theoretical model to be employed in a series of models to test the hypotheses; a formal request for specific data from the State and a compilation of other available resources; a budget which included a summer research assistant, supplemental salaries for us, and a negotiated cost recovery for the University; a statement of our intent to publish the work following completion; and a guarantee that the work would be completed within the constraints of the Division of Family Services.

First, always demand a written request for a proposal even if it is non-competitive. Moreover, understand the scientific and political bases for the agency's solicitation. Ensure that the individual you are working with has the resources to follow through. This will increase the likelihood that the work put into the proposal will reach fruition and lower the probability that political winds change direction.

Secondly, it is imperative that your proposed research has a basis in theory. The research method is what sets the academy apart from the statisticians in most state agencies and is why they hire you. The average state employee understands the importance of such models. They appreciate theory as it forces one to test hypotheses in a manner that is defensible, rather than being totally ad hoc. Governmental agencies do much meaningful research without the assistance of a University faculty member. Perhaps of more importance to the University faculty member, if the work is to be judged by colleagues, such theoretical underpinnings are mandatory.

Third, make your expectations of the agency and its employees known. It is far better to err on the side of too great of expectations than too little. If you have need of data, early in the process make that need known with a data wish-list of both current and future needs. Ensure the confidentiality of sensitive data, for example, by having their data analysts remove client names. Perhaps most importantly, find the responsible computer data manager and befriend him/her. This will be worth all the time it takes. In your relationships with agency employees, never act like a know-it-all unless asked. Significantly, if there are other resources which you have at your disposal inform the agency of them. Share the experience to help create relationships between your campus and state government. For example, the Office of Social and Economic Data Analysis at Missouri University provided county-level data to supplement the State provided center-level data.

Fourth, don't be afraid to ask for financial assistance. Academicians often make do with very limited resources. Much of the world judges the value of a product by what it costs. Therefore, realistically estimate the cost of your product at market prices. Remember your graduate students. Remember the University. Remember yourself.

Fifth, state your intent to publish the work. Excite the agency about the work being good enough to be disseminated through academic channels. Ask them about their profession's organization(s) that might provide a publishing outlet. This not only facilitates publishing, it greatly increases your credibility and enhances the image of the agency.

Finally, you should issue a guarantee that, if they meet the terms of the agreement, the work will be completed within the agency's time constraints. In a busy semester, research is often neglected. When you work for the State, you have a customer. Focus on your customer's deadline and meet it.

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Endnotes

1. Assistant Professor, Department of Human Development and Family Studies.
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Asking the Question: What Is the Relationship of Materialism, Commercialism and Children?

An understanding of materialism, commercialism and children provides a useful benchmark for the consumer educator who sets out to teach consumer skills.

Lois Wright Morton, Cornell University[1]

The decision making process that we tout as rational consumerism, requires that an initial decision be made about priorities, needs and wants. Underlying the choices of a rational consumer are the values and goals he or she develop which form the structure for current and future utility-for measuring the value of trading money, services and goods. The desire to acquire something you do not yet own, e.g. the degree of materialism and commercialism that is pushing or pulling personal preferences, has implications for the individual and society at large.

These implications, a materialistic lifestyle, affect the United States and other countries. Shabad (1994) reported in World Press Review that "In a poll of 102 children aged eight to 16 in the Ural city of Yekaterinburg, researchers Sergei Moshkin and Viktor Rudenko found that 'wealth and sex, in the opinion of teenagers, are what add up to the meaning of life for the modern Russian.'" The Russian survey found 16% of the children said "theft, robbery, and extortion," and an additional 3%, said prostitution was their preferred way to make their money.

Does materialism as a life goal pose a threat to our society? Should we be concerned when our children value "things" more than family life, their own personal self fulfillment, or public interest? What is the relationship between materialism, commercialism, and children? Fundamental to the economics of the marketplace is the desire to acquire something you do not yet own. The desire to own things, to consume, has led to a life style of materialism.

Easterlin and Crimmins (1991) define private materialism "to mean the pursuit of one's own material well being.." They build an economic model of preferences and view the goal of private materialism as in competition with family life goals, personal self-fulfillment goals and public interest goals. If a person puts time, energy, money and talents towards one goal, there is less available for the accomplishment of other secondary goals. Resources are limited and choices (based in preferences) must be made as to their allotment. Webster (1993) defines materialism as "a doctrine that only the highest values or objectives lie in material well being and in the furtherance of material progress." Competitive individualism requires one stand out in a group. This results in focus on things and/or occupations which provide evidence of money, power, and stature. A social welfare focus reduces (not eliminate) competitiveness and individualism and values "other regarding behavior" and "cooperation" as a public good.

Materialism, then, is the preoccupation of the individual with his economic sphere, what he can produce and consume, without the balancing influence of the social sphere which is concerned for the intellectual, spiritual, and emotional well being of the individual and his/her society.

Do young people appear to be pursuing their own material well being? Easterlin and Crimmins (1991) compared college freshman and high school seniors and found evidence of a "sharp shift toward private materialism from the seventies through 1986-87, with important effects on (future) plans and attitudes." Not everyone agrees, however. Levine (1981) and Yankelovich (1981) reached diametrically opposite conclusions. Yankelovich thought personal self-fulfillment was increasingly more common but Levine saw "a return to private materialism."

The communication vehicle called commercialism is the mechanism that creates consumer awareness and induces product desirability. Commercialism is partially a production response to consumer demand. Commercialism could not grow without consumer support and public policies which endorse it. The goal of commercialism, to get people to buy more, creates a cycle of earn-spend with the focus on consuming. American public policies often support an agenda which encourages the valuation of economics and production over social welfare. These public policies shape public values and norms and are in turn a reflection of public sentiment in an almost circular fashion.

Do we have more commercialism than in the past? George Comstock (1991) finds "..as the 1990s begin, there are many more commercials directed at children than in past decades."

Van Evra (1990) writes there are at least three schools of thought on how children respond to mass media exposures, particularly television: social learning theory, cultivation, and uses and gratifications theory. Social learning theory says that children learn by observation, modeling behaviors, and practicing behavioral scripts based on previous observational learning. Thus the media presents models and behaviors to be imitated. The cultivation theory asserts that "the more time spent viewing television, the more likely the viewer is to accept television's version of things, especially in areas where the viewer has little direct experience...When it provides information in an environment where there is no primary socializing agent, it can have a direct impact on values, beliefs, and behavior, or it may reinforce peer values." The uses and gratifications theory attempts to identify motivations of viewers based on needs: to obtain information, for entertainment and relaxation, for social connectedness, and as a barrier to avoid other situations. All three theories support the effect mass media has on children who are in the value development stage.

Consumer educators and parents can make a difference in shifting materialistic values and goals. Commericalism will continue to press materialistic values to consume. Policy will not change until adults shift to other non monetary values. The first assult on materialism begins at home and in educational institutions. The second, is development of a common agenda collectively with those of like views and concerns to change public policies.

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Endnotes

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Effects of Expected Future Income and Other Factors on Adequacy of Household Emergency Fund Savings

The 1983-86 Survey of Consumer Finance panels were used to test the relationship between expected income growth and emergency fund levels. The guideline that liquid assets should be 3 months income was met by 37% of households. A logit on meeting the guideline showed that expected income growth did not have a significant effect. Age, education, homeownership, and income had positive and household size and being Black had negative effects on meeting the guideline.

Y. Regina Chang, University of Missouri-Columbia[1]

The rational expectation-permanent income hypothesis implies that people save if they expect their income to decline. Hanna, Chang, Fan, and Bae (1993) showed that optimal holdings of emergency fund savings should be negatively related to expected income growth and positively related to the probability that income will drop. Results of empirical tests on the effect of expected future income on savings/consumption are mixed. No empirical test has been done to examine the relationship between expected future income and emergency fund savings. Using the 1983 and 1986 Survey of Consumer Finances, it is the purpose of this paper to determine the effects of expected future income and household demographic characteristics on adequacy of emergency fund savings.

Data and Methods

Data used for this study are the 1983 and 1986 Survey of Consumer Finances (SCF) -- the most recent and usable panel data available for investigating saving behavior at micro level. A total of 2,450 households were used in the analysis with non-probability high income sample excluded.

To determine effects of households' demographic characteristics and their expected future income on adequacy of emergency fund savings, a logistic regression analysis was used. Emergency fund savings was defined as household liquid assets holdings which include values in savings and checking accounts, money market funds, certificates of deposit, stocks, and bonds. Mean levels of households' emergency fund savings were $22,499 (in 1986 constant dollar) in 1983 and $24,589 in 1986 respectively. Households' emergency fund savings were further defined as adequate (meeting recommended guidelines as discussed in Hanna, et al., 1993) if the value of emergency fund savings exceeded three months of the household's gross income. With this criterion, only 37% of the households had adequate emergency fund reserves in 1983 and 37% of the households did in 1986. The dependent variable used in the logistic regression was dichotomous; and set equal to 1.0 if the household's emergency fund savings in 1983 exceeded three months of the household's gross income in 1983, and equal to zero otherwise.

Expected future income was estimated using four years (1982-1985) income information from the survey data and was equal to the difference between predicted 1984-1985 income and actual 1982-1983 income(Chang & Hanna, 1994). Other variables included in the model were age (four dummies indicating age<35, 35≤age<55, 55≤age<65, and age≥65 (omitted)), education (five dummies indicating years of schooling <9 years, between 9 and 12 years, =12 years, between 13 and 16 years, and ≥16 years (omitted)), family composition (three dummies indicating single male headed HH, single female headed HH, and married couple HH (omitted)), employment status (three dummies indicating worked part time, not working, and worked full time (omitted)), race (four dummies indicating Black, Hispanic, other races, and white (omitted)), income and income squared (continuous), household size (continuous), and home ownership (dummy, 1=owned home, 0=otherwise).

Results and Discussion

The logistic estimates of the probability of having adequate emergency fund savings in 1983 are shown in Table 1. Expected income growth did not have a significant effect on the probability of meeting the guideline. (A bivariate multiple comparisons test showed that there were significant differences in percent meeting the guidelines by levels of expected income growth.) At

the mean values of other variables, homeowners had a predicted probability of 39% of meeting the guideline, compared to 22% for renters. The predicted probability for Black households was 15%, compared to 38% for otherwise similar white households and 29% for Hispanic households. All age and education variables had significant, positive effects on the probability of having adequate emergency fund savings. At the mean values of other variables, the predicted probability of meeting the guideline was 16% for household heads under 35 and 74% for those age 65 or older. At the mean values of other variables, the predicted probability of meeting the guideline was 17% for those with less than 9 years of education, 34% for those with 12 years, and 52% for those with more than a bachelor's degree. The predicted probability of meeting the guideline was 38% for 2 person households, 34% for 3 person, 30% for 4 person and 27% for 5 person households. The predicted probability of meeting the guideline increased with income over the sample range of income. At the mean values of other variables, the predicted probability of meeting the guideline decreased as household size increased.

Table 1.
Logistic Regression Results, n=2450

Variables	Coef.	P-value
Expected Income Growth	-7.97e-7	0.7543
Age<35	-2.64	0.0001
35≤ Age <55	-1.80	0.0001
55≤ Age < 65	-0.80	0.0001
Edu < 9 years	-1.63	0.0001
9≤Edu<12 years	-1.26	0.0001
Edu = 12 years	-0.72	0.0001
13≤ Edu<16 years	-0.50	0.0008
Single male HH	0.05	0.7966
Single female HH	-0.02	0.8850
Not working	0.10	0.4914
Worked part time	0.28	0.2467
Black	-1.27	0.0001
Hispanic	-0.40	0.3523
Other races	-0.79	0.1835
Homeowner	0.61	0.0001
Household size	-0.16	0.0004
Income	6.94e-6	0.0421
Income squared	-2.92e-11	0.0318
Intercept	1.61	0.0001

Pseudo R squared = 0.30

Implications

The empirical multivariate results of this study do not confirm the theoretical predictions on relationship between optimal emergency fund savings and expected income growth. Future analyses should have a more rigorous specification of expected income growth and take into account the benefit structure of social insurance programs. The strong effects of the education variables may imply that consumer education could increase household holdings of emergency funds.

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Emergency Fund Adequacy Among U.S. Households in 1977 and 1989

The purpose of this study was to compare the level of emergency funds held by households in 1977 and 1989. About one-third of all households were adequately prepared in both years. As age and education increased, households were more likely to meet the rule of thumb of holding liquid assets equal to 3 months of income.

Sharon A. DeVaney, Purdue University[1]

Background and Purpose

Family economists and financial advisors vary on the level of savings needed by families for an emergency fund. The recommendation usually compares liquid assets to fixed and variable expenses. Because income is more readily known than expenses, a rule of thumb is to allow for an emergency fund between three and six months of income (DeVaney, 1994). This time period is often compared to the average time that a household might be unemployed. Since 1948, the two highest averages for number of weeks of unemployment occurred in 1983 and 1992, with 20.0 and 17.9 weeks, respectively. These rates suggest that allowing for an emergency fund of three to six months of income is rational. However, households may expect to cope with emergencies through the use of other measures such as unemployment compensation, increased use of credit cards and home equity lines of credit, and informal loans.

Johnson and Widdows (1985) compared emergency fund levels for households using Survey of Consumer Finance data from 1977 and 1983. Johnson and Widdows found that the majority of families in 1983 had insufficient funds to cover income during the average time that a household could be out of work. Hanna, Chang, Fan and Bae (1993) constructed a comparable variable for emergency funds from the 1990 Consumer Expenditure Survey. They showed that only 19% of the families had sufficient liquid assets to cover six months of pretax income and thus replicated an important finding from Johnson and Widdows' study. But, further analysis by Hanna et al. (1993) suggested that only those households who are certain that income will drop by at least 50% should hold as much as six months of liquid assets in reserve. Holding liquid assets equal to three months of income or expenses as a reserve for emergencies is more feasible than a six months reserve.

This study compares adequacy of emergency funds for households in the late 1970s and 1980s. The late 1960s and the 1970s were marked by a period of high, variable inflation and rising unemployment. The 1981-82 recession slowed growth in the early 1980s, but a vigorous recovery resulted in strong economic growth in the 1980s. Civilian unemployment was 5.3% in 1989, down from 10.8% in 1981. Personal tax reform meant lower marginal tax rates and lower capital gains tax rates (Economic Report of the President, 1989, pp. 41, 75, 390).

Data and Method

Data from the Survey of Consumer Finances for 1977 and 1989 were used for the study. In 1977, financial data was collected in discrete intervals. For this study, the 1977 data were converted into continuous variables by using the midpoint of each category. In 1989, an over-sampling of wealthy households from data tax files was used to ensure a large and unbiased sample of upper income households. A weight procedure was used to allow for the high income households. Multiple imputations were used to account for nonresponse and other missing information. Thus, five complete data sets were created for the 1989 SCF. This study reports on analysis of the first data set.

A comprehensive measure of emergency funds was used (Johnson & Widdows, 1985). It consisted of the following assets: checking and savings accounts, money market funds, certificates of deposit, mutual funds, stocks, and bonds. Logistic regression was used to estimate the likelihood of having liquid assets sufficient to cover three months of pretax income. Independent variables included age, education, race, income, and net home equity. Household size was available in 1989 but not in 1977. Findings are shown in Tables 1-3.

Table 1
Characteristics of the Sample

Variable	1977	1989
n	2,225	3,134
Age		
Mean	47	48
Median	47	50
Liquid Assets		
Mean	$26,930	$38,168
Median	3,898	11,000
Income		
Mean	33,293	33,105
Median	3,600	28,587

Table 2
Logit: Liquid Assets => 3 Months Income in 1977

Variable	Coef.	Sig.
Intercept	-3.1307	0.0001
Age	0.0362	0.0001
Income	8.23E-6	0.0006
Race nonwhite	-0.8541	0.0001
Education (compared to < 12 years)		
12 years	0.3871	0.0046
13-15 years	0.5822	0.0002
16+ years	1.0526	0.0001
Net home equity	7.24E-6	0.0007
Pseudo R^2 = 0.1839		

Summary

The proportion of households holding liquid assets to cover three months of pretax income was 34% in 1977 and 35% in 1989. In both years there was a significant positive relationship between emergency fund adequacy and age, education, and net home equity. Nonwhite households were less likely to hold adequate emergency funds. The effect of meeting the rule of thumb in 1977 increased with income.

The empirical model does not allow for affective measures, e.g., risk tolerance, attitude toward the use of credit, preference for investing in housing relative to cash and cash equivalent assets or the propensity for use of government programs. Future research should include other variables to measure how households cope with emergencies.

Table 3
Logit: Liquid Assets => 3 Months Income in 1989

Variable	Coef.	Sig.
Intercept	-4.3711	0.0001
Age	0.0466	0.0001
Income	4.16E-7	0.5981
Income^3	-9E-21	0.2060
Race nonwhite	-1.0554	0.0001
Education (compared to < 12 years)		
12 years	0.6395	0.0001
13-15 years	1.0112	0.0001
16+ years	1:5950	0.0001
Net home equity	4.99E-6	0.0001
Household size (compared to > 5)		
Size = 1	0.6349	0.0224
Size = 2	0.9514	0.0005
Size = 3	0.4199	0.2813
Size = 4	0.5655	0.0427
Size = 5	0.5929	0.0522
Pseudo R^2 = 0.3185		

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Endnotes

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The Adequacy of Emergency Funds to Cover Household Expenditures

An analysis of households in the Consumer Expenditure Survey confirmed previous findings, with only 31% having enough liquid assets to cover 3 months of spending. A logit showed that meeting the guideline increased with income, age and education and decreased with household size. Black households were significantly less likely than similar non-Black households to meet the guideline.

Sherman Hanna, The Ohio State University[1]
Hui Wang, The Ohio State University[2]

Why do most U.S. households not meet recommended guidelines for emergency funds? Hanna, Chang, Fan and Bae (1993) presented a model of optimal emergency savings. Previous empirical studies have found that most U.S. households do not meet the recommended standard of having enough liquid assets to cover at least 3 months of expenses. A 3 period model developed by Hanna, et al. (1993) showed that the household's expected probability of an income drop was the crucial variable in determining optimal holdings of emergency funds. Because of the existence of means-tested social insurance programs, it might be rational for low income households to hold relatively low levels of emergency funds (Hubbard, Skinner & Zeldes, 1995). Chang and Lindamood (1993) showed that less than 10% of U.S. households had a chance of an income drop of 50% or more, although less educated households and farmers were at greater risk. Suggested guidelines for emergency fund holdings range from 3 to 6 months of income. Theoretical and empirical analyses of the risk of large income drops imply that a 3 month guideline is more reasonable than a 6 month guideline. Therefore, this paper will focus empirical analysis on factors related to whether households meet the 3 month guideline.

A dataset was created with households who had 4 consecutive quarters of interviews in 1990-91 in the BLS Consumer Expenditure Survey. There were 4,256 consumer units ("households") with complete reporting of income. The procedures in this paper for defining variables were similar to those reported in Hanna, et al. (1993).

Results

About 31% of the households had enough liquid assets to cover at least 3 months of *spending* (henceforth referred to as meeting the guideline.) To allow comparison with other datasets lacking spending data, proportions based on income rather than spending measures were also calculated. Almost 28% met the guideline based on pretax income, 29% based on income after taxes (but not after pension deductions) and 30% based on income after taxes and pension deductions.

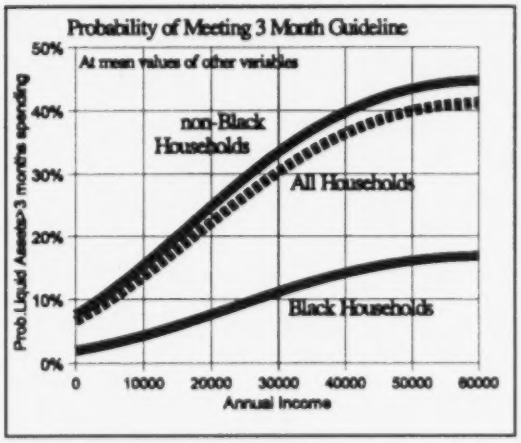
A logistic regression (logit) was estimated with 32 variables. A pruned logit was then run, using only the variables significant at the 0.05 level or better from the first logit. The results of the pruned logit are shown in Table 1. The pseudo R^2 was 0.28. The predicted probability of meeting the guideline increased with annual income. At the mean values of other variables, the probability of meeting the guideline increased from 7% at zero income to 41% at an annual income after taxes and pension deductions of $60,000 (Figure 1, middle line). The predicted probability of meeting the guideline decreased with household size, at the mean values of other variables, from 46% for 1 person households to 35% for 2 person, 25% for 3 person, 24% for 4 person, 19% for 5 person and 8% for households with 6 or more persons. At the mean values of other variables, Black households had a predicted probability of meeting the guidelines of 11%, compared to 34% for non-Black households. Figure 1 shows the predicted probability of meeting the guideline by income level, for all households and for Black and non-Black households. Even at an annual income of $60,000 per year, Black households had a predicted probability of meeting the guideline of only 17%, compared to 45% for non-Black households. At the mean values of other variables, those with less than 12 years of education had a probability of 18% of meeting the guideline, compared to 44% for those with 16 or more years of education. At the mean values of other variables, the predicted probability of meeting the guideline was 13% for 25 year old reference persons, 26% for 45 year olds and 46% for 65 year olds. There were significant but small relationships between net

home equity and meeting the guideline and between other income and meeting the guideline.

Table 1.
Pruned Logit of Having Enough Liquid Assets to Cover 3 Months' Spending.

Variable	Coef.	Sig.
Income after taxes&pension ded.	0.00009	0.0001
Income squared/1E6	-0.00112	0.0001
Income cubed/1E12	0.00424	0.0001
Age	0.04290	0.0001
Race Black	-1.38820	0.0001
Education (compared to <12 years of education)		
12 years	0.70720	0.0001
13-15 years	0.79060	0.0001
16+ years	1.24840	0.0001
Other money income(not taxable)0.00006	0.0010	
Net home equity	7.78E-7	0.0096
Household Size (compared to size > 5)		
Household size=1	2.31520	0.0001
Household size=2	1.90030	0.0001
Household size=3	1.39350	0.0001
Household size=4	1.34760	0.0001
Household size= 5	1.05890	0.0007
Pseudo R^2 = 0.28319		

Figure 1
Predicted Probability of Meeting the Guideline, by Income, for Black and non-Black Households.



Conclusions .-

Almost 70% of households did not have enough liquid assets to cover 3 months of spending. Actual patterns of meeting the guideline did not seem to be related to the theoretical need for emergency funds, at least in terms of the risk of a large drop in household income. It is possible that households are rationally relying on bankruptcy or social welfare programs. If, however, households are taking risks based on misperceptions of the costs of bankruptcy or other dangers possible because of inadequate emergency funds, or not considering new cuts in welfare programs, consumer education may be needed.

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Culturally Diverse Consumers: Are We Reaching Them?

This workshop focused on methods consumer educators could use to appreciate and address cultural differences, beyond language, of Asian, Hispanic, and African-American audiences.

Mary Ellen Rider, University of Nebraska-Lincoln[1]
Phillip Tajitsu Nash, Consulting Services[2]
Lydia Y. Savage Johnson, Howard University[3]
Horacio Soberon-Ferrer, University of Florida[4]

As more and more immigrants enter the United States, consumer educators find reaching and teaching diverse audiences to be a challenge. Translating materials into a native language is not the only major consideration. Although socioeconomic and language differences exist, many times cultural differences are the significant demanding factor in adjusting teaching techniques and tools to the target audience. Cultural beliefs can affect the method or content of information transferred to these audiences.

Summary of Panelist Remarks

Mr. Phil Tajitsu Nash

Asian Americans and consumer rights were addressed. Mr. Nash indicated that there are 25 ethnic groups within the category of "Asian." Although they represent only 3% of the American population, Asians represent two-thirds of the world's population. Asian Americans suffer discrimination, fought discrimination, and improved their situation as a result. There are no quiet Asian Americans. There are, however, generational differences. The differences generally stem from language and how many persons of the specific Asian group are already in the United States. Some passivity exists, as with other cultures influences by large amounts of television viewing. A few topics such as wills and spousal abuse might raise taboos among Asian Americans. Wills are taboo because of religious beliefs. Spousal abuse issues recognize conduct which brings shame upon an Asian family. To address the needs of Asian American audiences, consumer educators should determine what the group is and how long they have been in the United States. Ask the audience members what he or she knows about the topic being addressed. Mr. Nash's perspective was that basic consumer information is needed. A resource list for information and of successful programs was provided as follows:

Asian American Journalists Association	415-346-2051
Curriculum Resources (free catalog available)	415-343-9408
Association for Asian American Studies	607-255-3320
Research Information	310-825-2974
Amerasian Journal	310-825-2968
Labor Organization	202-842-1262
Asian American Legal Defense Fund	212-966-5932
Chinatown Health Clinic	212-732-9545
National Asian Women's Health	510-208-3171
Japanese American Social Services (Elderly)	212-255-1881

Dr. Lydia Y. Savage Johnson

The issue of diversity and reaching African American audiences was addressed. Dr. Johnson indicated that older African Americans prefer to have someone of their own age and color to deliver information. This group is interested in receiving information about money management. Young African Americans would also prefer to receive information from their peers. Dr. Savage remarked that cultural differences appear within one's sense of self and space, communication and language, appearance and dress, food and eating patterns, values and norms, and mental processes. Her suggestions included not labeling African Americans, using the term "you people," and making examples referring to African Americans a negative example.

Dr. Horacio Soberon-Ferrer

Hispanics and their consumer preferences were addressed. The Survey of Consumer Behavior indicates that Hispanics are twice as likely to be victimized than members of other ethnic groups. Eighty-two percent of Hispanic consumers attend religious services. Therefore, Dr. Soberon indicated that churches are a point at which Hispanic consumers can be reached. In a survey of Hispanic consumers conducted by Dr. Soberon while with the American Association of Retired Persons, informal education was the lowest preferred method of receiving information by older Hispanics. More preferred methods were personal attention, telephone referral, formal classes, and videos. Radio is viewed as an excellent option for program delivery because Hispanics are likely to live in larger families with lower education levels.

Question and Answer Period

A question and answer session followed the panel presentation interspersed with shared information from the audience members. A suggested reading on diversity was The New Leaders by Ann Morrison. Other suggestions included researching the needs of the particular audiences with the use of coalitions and not translating existing materials due to cultural differences that may exist.

Acknowledgements

Appreciation is expressed to Gong-Soog Hong, Purdue University for her original idea for the panel, assistance in the development of the proposal, and work in securing panel members. Thanks also to Horacio Soberon-Ferrer for assisting in securing panel members.

Endnotes

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Resource Use and Decision Making in Caregiving of Frail Elders: Is Research Informing Public Policy?

Quality research seems essential to inform long term care policy and program development. The purpose of this workshop was to critique the current status of research regarding the use of informal and formal resources and decision making in caring for frail elders. Implications for informing key public policy issues were discussed.

Marlene Stum, University of Minnesota[1]
Gong Soog Hong, Purdue University[2]
Shelley White-Means, University of Memphis[3]

Caring for Frail Elders: Public Policy Dilemmas

Caring for an increasing proportion and number of heterogeneous elderly as abilities to remain independent change has emerged as a major economic, political and social issue. Long term care policy reform is being driven by increasing demands, quality concerns, need for cost controls, and overall dissatisfaction with the current fragmented approach to delivering and financing. The number one theme identified as essential to address at the 1995 White House Conference on Aging was assuring comprehensive health care including long term care. Specific public policy dilemmas regarding caring for elders revolve around: a) what family, marketplace and/or government resources should be used to protect against the risk of long term care; 2) what long term care benefits or services should everyone have access to; 3) whether eligibility for benefits should be based on impoverishment, age, role of family as caregivers, or other criteria; and 4) how to provide quality care while controlling costs.

As long term care policy develops it seems essential that quality research help inform the discussion. This workshop focused on understanding the current strengths and weaknesses of existing research regarding: a) human capital or social support as a resource (Hong), b) the role of ethnicity and caregiving (White-Means), and c) the impact of the current financing system on families (Stum). Brief overviews of each research area follows. Workshop participants engaged in dialogue about the implications of the current knowledge base for informing local, state and federal public policy dilemmas.

Who Are the Caregivers?

Factors Affecting Who Provides Care

Gender. The provision of informal care to the elderly is predominantly a female role. In a national study of caregivers, Stone, Cafferata, & Sangl (1987) reported that about 70% of caregivers were women, with 29% of adult daughters and 23% of wives constituting this population. The 1988 survey conducted by the American Association of Retired Persons (AARP) found that three-fourths of caregivers were women and about 40% were involved in parental responsibilities.

Age. The mean ages of caregivers vary depending on the data used. The average age of caregivers was 57 years in the study by Stone et al. (1987); 25% of them were between 65 to 74 years old and 10% were 75 years or older. The study indicated that the young-old help the old-old. The AARP (1992), however, reported 46 years as the average age of caregivers. Among children, the oldest children tend to provide more assistance than other children (Horowitz, 1985).

Marital Status. About 70% of all caregivers are married. Among the nonspousal caregivers, about 50% are married. Female caregivers tend to be widowed and male caregivers are likely to be never married. Caregivers age 45 to 54 years old are less likely to be married than their age peers in the general population. In contrast, older caregivers, age 65 and older, tend to be married than their age peers in the general population because they are caring for their spouses (Select Committee on Aging, 1987).

Family Income. Approximately 57% of caregivers reported their family incomes in the low to middle range. One in three had incomes falling within the poor or near poor category, and most of them were women (Select Committee on Aging, 1987). The average caregiver spent $117 per month on care-related expenses (AARP, 1992). The lost earnings due to caregiving responsibility were $20,400 per year on average (Enright & Friss, 1987, cited in Neal et al.). The financial status of the caregiver also determines the type of care provided to the elder. Low income households tend to live with the elder and provide direct assistance whereas high income households are likely to provide financial assistance to the elder and purchase the services (Horowitz, 1985).

Employment Status. The 1988 AARP survey indicated that over half of all caregivers are employed outside the home and approximately 12% of all female caregivers leave employment because of caregiving demands. Stone et al. (1987) reported that 31% of all caregivers are employed. Both husband and wife had an equal probability of quitting work, and more daughters (12%) left their jobs to become caregivers as compared to sons (5%). Stone and Short (1990) reported 29% of caregivers quit jobs, accommodate their work schedule, or assume care responsibilities.

Occupation. The occupation of caregivers influences the way they adjust their work and demand for care. More clerical and sales workers either reduced their work hours or rearranged work schedules than those who were professionals and managers (Stone et al., 1987). More operators, laborers, clerical and sales workers took time off without pay than those in other types of occupation (Select Committee on Aging, 1987).

Living Arrangement. About three-quarters of the caregivers shared households with the care recipients (Stone et al., 1987). Stephens and Christianson (1986) reported that about 57% of the caregivers participating in the National Long-Term Care Channeling Demonstration shared their households. Sharing a household is likely to be determined by the functional ability of parents, socio-economic status, and the gender of the parent and the child. The amount of caregiving is influenced by living arrangement. Care recipients receive more extensive care if they share a household (Horowitz, 1985).

Health Status. One-third of all caregivers perceive their health status as fair or poor. Among spousal caregivers, about 44% of wives and about 50% of husbands reported that their health status as fair or poor. Overall, caregivers perceive themselves in poorer health. This indicates that stress experienced by caregivers might contribute to the deterioration of their health (Select Committee on Aging, 1987).

Informal Caregiving: Current and Future Perspectives

Demographic, family, and social changes have brought about the increasing concerns regarding the supply and demand of family caregiving. First, the American population is aging. According to the US Department of Health and Human Services (1990, p. 23), people over 65 will constitute 13% of the total population by the year 2000. The most rapid population increase over the next decade will be among those over 85 years of age. This group will constitute a substantial share of people who are not independent in physical functioning which in turn requires assistance with their activities of daily living.

Second, the number of adults with disabilities has increased because of advanced medical technology. Lives from fatal injuries and accidents are saved but many survivors have functional limitations that require informal care at home or institution. Third, escalating health care costs for the elderly population brought the emphasis on non-institutional care (i.e., home health care, homemaker services, adult day care). Families provide long-term care services for their frail elderly parents and relatives. Families are also responsible for those who are discharged earlier from hospitals (Neal et al., 1993). Fourth, the increasing number of divorced and remarried older persons suggests that there will be more parents of which to take care. At the same time, the number of divorced adult children has increased, leaving more children without a spouse's assistance (Select Committee on Aging, 1987).

The number of adults who are able to provide informal care has been shrinking, while the demand for informal care has been increasing. The declining fertility rate indicates that there will be fewer children to care for the elderly. The female labor force participation rate for women aged 20-54 in 1993 was 73%. The number of employed women with children under age 18 increased from 39% to 62% (Bureau of Labor Statistics, 1993). Moreover, the number of women in the labor force is expected to increase since two pay checks are needed to achieve a middle-class life style (Akabas, 1990). These statistics indicate a decreasing pool of caregivers in the future and time available for the services traditionally provided by wives, mothers, and daughters. On the other hand, these trends might encourage adult sons to take the responsibility for frail elderly parents.

Ethnicity and Caregiving

Ethnic identification is the way one perceives he/she is a part of a group that race, religion, or national origin defines. Ethnicity influences interactions within families and between families and their environment, life course experiences, and the aging process (Jackson, 1989).

American elderly are ethnically diverse. Based on the 1990 census, the most frequently reported ethnic elderly groups (in order of percent of the population) are German-, English-, Irish-, American, and Afro-Americans. Ethnic minority populations are projected to compose a higher and growing percentage of the elderly. With Hispanic elderly projected to represent 15 percent of the elderly by the year 2050. Non-Hispanic blacks, American Indians, and Asians will represent 20 percent (Bureau of Census, 1993). This changing trend in the ethnic composition of the elderly suggests that public policy strategies for addressing the needs of the elderly should correspondingly change.

What Do We Know About Ethnic Caregivers?

Caregivers are an essential resource for disabled ethnic older persons. The primary emphasis of research on caregivers is describing the size of caregiving support networks and the types of persons who provide care.

Two primary national probability data sources have assisted in the development of this literature. They each have large samples of caregivers for older disabled blacks. The data sources are the National Long Term Care Channeling 1982–84 (Channeling) and the 1982 and 1989 waves of the National Long Term Care Survey (NLTCS). The 1982 NLTCS is unique because white caregivers provide information about their ethnic identification.

Data from the Channeling survey indicate that disabled black older persons have caregiving networks that are larger than those of frail white older persons. The networks are also more likely to include nonkin. Blacks are more likely to have distant relatives and friends who provide live-in care. About 52% of other relatives and 22% of nonrelatives share housing with frail black older persons, compared with 31% and 11% of other relatives and nonrelatives, respectively, of frail white older persons (White-Means, 1993).

Data from the NLTCS (1982) indicate that when African-Americans are compared to German-, Irish-, and English-Americans, African-Americans have much larger caregiving networks and are more diverse in composition (Thornton & White-Means, 1993). Caregiving networks for older African-Americans are more likely (17% vs. 9%, 8%, and 9%, respectively) to include five or more caregivers. Compared to the three other ethnic groups, African Americans are least likely to have networks with immediate family members only (42% vs. 54%, 63%, and 57%, respectively).

The NLTCS also provides data on the amount of caregiving effort provided by informal caregivers. We know that African-American caregivers provide considerable informal support hours to older persons (White-Means & Thornton, 1990). When compared to German-, Irish-, and English-American caregivers, African-American caregivers provide more total hours of assistance, even after controlling for differences in the functional levels of impairment (which is much higher among African-American older persons).

Other research on ethnic caregivers is based on small non-population based samples who experience particular medical ailments. For example, Cox and Monk (1993) present data on 86 Hispanic caregivers of Alzheimer's patients in New York City. The data suggest that primary caregivers for Hispanic older persons work in small networks, with about 60 percent of caregivers indicating that no substitute caregiver was available to assist the older person if the primary caregiver was unavailable.

Ethnic Caregiving and Use of Formal Care

While the limited use of institutionalized nursing home services among racial minority populations is well documented (National Caucus and Center on Black Aged, 1987), a paucity of research examines the relationship between informal and formal care utilization among ethnic groups.

A recent paper by Mui and Burnette (1994) asks the question of whether ethnicity is a factor in long-term care and contrasts patterns of service use for African-Americans, whites and Hispanics. African-Americans rely more heavily on informal helpers and support from churches than the other race/ethnic groups. Whites use nursing home and meals on wheels more frequently. Hispanics are more likely than either African-Americans or whites to obtain counseling services. Logistic regression analysis indicates that, compared with whites, African-Americans are 18% less likely to use in-home services and Hispanics are 91% more likely to use community-based services. African-Americans and Hispanics are 82% and 58% less likely than whites to use nursing home services. The rationales for these patterns are left unexplained in most analyses.

Ethnic Caregiver's Employment, Stress and Health

The literature addressing this question is also limited. With these extensive informal care time commitments, many black caregivers quit their jobs in the

labor market to engage in care of older persons. The National Channeling data indicate that spouses (36%), daughters (26%), sons (17%), siblings (20%), and other relatives (18%) quit their jobs due to caregiving responsibilities (White-Means, 1993). However, African-American caregivers are no more likely than white ethnic caregivers to quit their jobs (White-Means & Thornton, 1990). Extensive hours of informal caregiving also limit the family, free and sleep time of black caregivers. Emotional and physical strains of caregiving are problems not only for immediate family members, but also for distant relatives and nonrelatives who provide informal care.

Does Research Inform Public Policy?

Ethnic variations in family caregiving result due to a multiplicity of factors, some seldom isolated in current research (Gibson, 1989). The distinction between the roles of family norms/culture, minority status and racial experience are seldom examined in research on ethnic caregivers. Although important in expanding the understanding of the family caregiving process, these distinctions are difficult to isolate because of limited data that ascertain both race and ethnic background of caregivers. Additionally, data seldom include variable measures that are relevant to the experiences of ethnic and/or racial populations. Data are needed on attitudes regarding family perspectives on caregiving responsibilities.

Multifarious definitions of family impact on family preferences for the use of informal and formal care. Much more information is needed regarding these types of family strategies.

Socioeconomic status may influence the role and activities of the family caregiver, as well as use of formal care services. Family networks may also develop as adaptations to being discriminated against and excluded from mainstream institutions. The structure of race relations in the United States leads to unresponsiveness to cultural differences, including language barriers and lack of respect. There is some evidence that racist experiences in the past cause a reluctance among black aged to go to white doctors or to use formal in-home services for long-term care needs (National Caucus and Center on Black Aged, 1987). Public policy must not only emphasize changing the structure of the financing of care, but also it must consider structural barriers resulting from racial discrimination.

Analysis that clarifies the relative importance of family norms, socioeconomic status, and racial experience will inform public policy. If socioeconomic status is of import then public policy emphasis may be more effective when directed toward changing the financing of formal and informal care for older persons. Public policy that does not acknowledge variations in family norms of responsibility will not have the same impact on each ethnic population, some groups benefiting more than others.

The greatest impairment to our understanding of the experiences of older ethnic populations is inadequate national, population-based longitudinal data on caregivers. There are ethnic minority populations about which we know very little, i.e., Native-, Asian-, and Hispanic-Americans. Additionally, the database for understanding white ethnic caregivers was constructed in 1982.

Impact of Financing Long Term Care on Families

The current fragmented delivery and financing of long term care in the United States has proven costly to the chronically ill elderly and their families as demands have outpaced available resources. Evidence suggests that worry and fear about impoverishment and lack of financial security due to long term care expenses is very real and also very justified given the lack of planning and lack of long term care risk protection options.

Existing research has primarily focused on understanding two key areas: a) the financial capacity of elders and their family members to afford the financial risks of long term care; and b) the realities of private and public expenditures for various long term care service use. Very little research has examined decision making processes and outcomes at the family system level as resources are allocated to protect against and/or pay for long term care.

Financial Capacity

Are the financial resources of elders adequate to meet long term care costs? Studies examining whether elders can afford long term care have measured resources and long term care costs in different ways but with similar conclusions—that many elderly are at risk of financial impoverishment (EBRI, 1990). Moon and Smeeding (1989) suggest that it is the variation in wealth among the elderly which is the major determinant of ability to afford long term care. While overall wealth of the elderly population has increased over the last decade, subgroups of the heterogeneous elderly population remain at risk (EBRI, 1990).

The vast majority of research has investigated the affordability of institutionalized care as opposed to the broader continuum of long term care services and settings preferred by elders. Studies have typically measured some combination of available income, liquid assets, and

home equity of elderly against the cost of the median length of stay in a nursing home. Conflicting messages of capacity to afford emerge depending upon assumptions regarding financial resources, probability of risk, and cost of risks. Holden and Smeeding (1990) raise the dilemmas of how to conceptually define and operationalize costs and resources for couples and family systems versus individual elders as well as adjust for the impact of gender on use and therefore potential costs. National datasets typically do not not have sufficient measures for both economic and health status to examine interrelationships of variables over long term care transitions.

A closely related body of research focuses on examining the risk and rate of spend down to become eligible for Medicaid. Issues of how many elderly are affected by catastrophic nursing home expenses is a major part of the policy debate regarding Medicaid reform. National data suggest the magnitude is small, while state-specific data indicate it is greater and reflect circumstances particular to each state. Estimates of spend down range from 14–44.9% of nursing home residents reflecting varying measures and sampling techniques (Adams, Meiners & Burwell, 1993). Adams, Meiners & Burwell (1993) provide an overview of research methods used to examine spend down issues. Additional studies suggest that spend down issues may be a more common problem for home and community-based care than in nursing homes.

The role of voluntary poverty or divestment in the impoverishment process is also of great interest to policy makers; however no comprehensive studies have been conducted to determine the scope and prevalence of divestment. Understanding divestment requires longitudinal data which can capture the numerous transitions in types of service use overtime; changes in the mixture of sources of payment, income and asset status changes within and between generations and intentions behind the transfers. What is known is that elders are using a number of legal strategies to transfer assets and effectively transform themselves from affluence to voluntary poverty and eligibility for Medicaid (Burwell, 1991). Two recent studies have begun to examine decision making and transfer of assets with an emphasis on family caregiver perceptions (Frazer & Stum, 1994; Walker et al., 1994). The qualitative approaches in these studies are designed to capture the dynamics involved in resource allocation decisions.

Various studies continue to examine the capacity of elders to insure against the risks of long term care through long term care insurance products. Research focuses on long term care insurance affordability, potential market size, purchase behavior, and marketing practices. Cude (1994) suggests that although the quality of long term care insurance has increased, consumer issues of affordability and true availability remain.

Who Currently Pays for Long Term Care?

A majority of long term care costs are currently borne by the income, assets, and human capital of individuals and family members (EBRI, 1990; Rowland & Lyons, 1991). In addition, research suggests that 40 percent of the elderly with some activity of daily living dependency have unmet needs, primarily due to the lack of ability to obtain or pay for long term care (GAO, 1988). When private resources are defined broadly to include informal care as well as private expenditures, 73 percent of the elderly rely entirely on private resources for the care (Spillman & Kemper, 1992).

The vast majority of what is known about the use and costs of long term care has focused on institutional care provided in nursing home settings. Various studies have examined the likelihood of nursing home use, lengths of stay, and differences in use and costs given various sociodemographic variables. Studies have only begun to examine use patterns related to community and home care. Liu, Manton and Liu (1985) suggest that out-of-pocket costs for intensive home care or adult day care can be as high as those for nursing home care. Liu, Perozek and Manton (1993) added an examination of a broader continuum of selected acute and long term care costs. Findings consistently reinforce the importance of understanding need or health status as a key eligibility criteria with implications for measuring physical and or cognitive abilities.

Existing Challenges

Existing research offers some insight into the financial capacity of elders to afford long term care risks as well as current use and expenditures. To adequately inform public policy, future research should: a) examine the impact of delivery and financing systems on families as well as government; b) improve our understanding of decision making processes in families; c) understand long term care as a dynamic process vs. discrete events; d) assist in understanding the intergenerational exchange of resources; e) examine actual behaviors versus intentions; and f) recognize the impact of varying states' infrastructures.

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Endnotes

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Forecasts of Consumer Research and Education Needs: A Consumer Advocate Perspective

Lee Richardson, University of Baltimore[1]

Major institutions respond to forces and trends in society at large. Forecasts should have an assessment of basic historical social forces.

It is important to emphasize those needs that society, government, education, research groups, advocates, business, and the media respond to. Fundamental "need," per se, can only be one component of the analysis.

This forecast then uses several criteria to select issues and items for your consideration in education and research. They are:

1. Benefit to consumers is clear and substantial.
2. Benefit to consumers is perceived clearly by important institutions.
3. Priority for consumers is perceived within the consumer movement.
4. Appropriate research and/or education possibilities exist.

Price Deception

Deceptive practices, particularly price promotions, are on the increase as a natural result of Federal Trade Commission inactivity in this area since 1980. Few State Attorneys General likewise are active now. As a consequence, there is widespread flouting of guidelines, and deterioration of price advertising and promotion ethics in much of retailing.

Examples abound. Some gold, watches, and jewelry department items in a majority of discount and department stores are perpetually on discounts of 30% to 70%. In other words, the regular prices are meaningless and fictitious. Thus the discounts are deceptive and fictitious, too.

A second area of dubious discounts is department store price advertising. Leading stores in many states feature discounts from original, ticketed, or regular prices at which no merchandise was ever sold. Blatantly, many of these stores provide a footnote in many of their advertisements admitting this practice. The failure of the states to prosecute the practice appears to be based in part on the theory that if the footnote says they violate regulations, then the stores are being candid anyway.

A third example is the "high-low pricing" used by many supermarket chains. In an effort to appear to be deep discounters, stores practice a variety of techniques to give claim that their low prices are discounted even 50% or more. One chain featured in a Baltimore Channel 11 TV exposé on February 9 of this year was caught claiming discounts from "regular" prices that could not be justified. The chain responded quickly to television, while several Maryland regulators would not act. The company claimed a regular price of $1.13 for a spaghetti product, for example, but admitted it had not sold at that price for more than five months. That's not regular! Indeed, consumer research could verify that $1.13 is fictitious: neither that store nor competitors charge such prices on a regular basis.

Charity Deception

Most states regulate charitable solicitations to some degree, including both disclosure rules (charities must say what they do and who they are) and standards of conduct (certain organizations are not charities and certain practices are not permitted). There are also major private organizations that evaluate charities and have had some impact through press releases and other means. Charity scams are also a favorite feature of national "magazine" type television shows. Charities are a serious area of consumer problems.

One major charity scam continues to go unchecked. Consumer education efforts, buttressed by more effective research, both of a legal nature as well as of consumer behavior, could provide that check. There are numerous thrift store companies working under contracts with charities willing to lend these companies their names for small fees. These small fees to charities, comprising perhaps only 5% to 10% of the value of consumers' donations, are the only charitable benefits of such donations. The deception arises from the fact that neither donors nor store shoppers are aware that they are participating in such scams involving private retailing companies where so little money winds up with the charities.

The typical charities involved in such business dealings are lesser known ones, except for several major veterans groups. The charities do nothing except lend their tax-deductible, credible names. The businesses handle collection and sale of the household goods. State and federal taxes (citizens' deductions of charitable gifts) are reduced by considerably more than the charities actually receive, an issue affecting all taxpayers. A citizen may deduct $100 for the value of a gift to charity. The charity may get $5.

Information Industry Structure

The cable, audio, and video entertainment, broadcast television, telephone, and computer industries collectively are racing toward an information industry restructuring that will profoundly affect lifestyles of all consumers. The shape of that industry will not freeze in place in the foreseeable future. Instead, the changes will continue to produce increased economic values for most people.

Consumer research and education will need to stress whether or not consumers stand to benefit or lose from various proposals. This will include issues such as the cross subsidies of telephone company market operations by the regulated portions of their businesses. People need advice in the short term about technological obsolescence of their products and how to evaluate new technologies such as home computers or the price of portable phones. Most difficult of all will be keeping a sharp lookout for industries that want to control technologies to the exclusion of others: No greater threat exists to open access to all than that of the traditional regulated telephone companies who own access already to over 95% of all homes and businesses. Their potential for cross-subsidy and providing subsidized information services in competition with others is a clear danger, as evidenced by decades of such corporate behavior.

Contest and Sweepstakes Scams

A significant number of direct marketing companies sell sweepstakes. Of secondary interest to some of them, almost lost in the sweepstakes promotions, are offerings such as magazines or garden products. This is, of course, reverse of the normal order where sweepstakes are promotions intended to sell products to people primarily interested in the products.

This category also includes some sweepstakes companies whose products are junk at high prices. Consumers who do not understand that there is no obligation to buy (if there was, the companies probably would violate lottery laws) are nonetheless buying heavily.

The essential issue is that the companies prey upon consumers, often older Americans, who are induced to subscribe to magazines or buy unneeded products. Some may buy out of a sense of obligation to the "generous" sweepstakes companies who have provided them an opportunity to win a million dollars. These consumers are treated as suckers. At my home, an 87-year-old male consumer receives 20 pieces of mail per week related to sweepstakes offers, plus unwanted and unread magazines such as Ladies Home Journal, Victoria, or Redbook, as well as various gift items which pile up unused on basement shelves. This pattern exists in many thousands of homes.

Some sweepstakes offers are outright scams. Expensive information services that virtually guarantee success in entering lotteries in other countries make mass mailings in the U.S. These companies, located out of the country, apparently buy the mailing lists of domestic sweepstakes companies.

Endnotes

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Consumer Research and Education Needs

Consumer research and education needs fall into three major categories: 1) consumer education and decision-making; 2) consumer protection; and 3) marketplace behavior. This paper focuses on research questions and trends that cut across many issues and which could, therefore, be explored broadly or narrowly.

Katrinka Smith Sloan, American Association of Retired Persons[1]

Consumer Education

Consumer Education is often considered an alternative to enforcement or regulation, although it should work in tandem with these efforts. It is also tied directly to many regulatory activities regarding mandatory consumer disclosures. However, the most effective consumer education methods are not often identified, particularly methods that may be effective with older consumers or low income consumers. Very little evaluation is done to determine what, if anything, consumers have gleaned from an educational pamphlet or video. It is often only learned if such education makes a determined impact on consumer behavior -- as it did with smoking cessation.

The vast majority of consumers have trouble with complex consumer choices. One problem is the complexity of goods and services in the marketplace. However, another is the nature of consumer information currently provided in the marketplace. Consumer information is generally poor... hard to read, provided at the wrong time, too complicated or not compelling enough.

An important research priority is to evaluate how consumers make their purchase decisions, what are the most effective consumer education methods and what new methods should be explored. The information super-highway brings with it enormous opportunity for education, but also many cautions. We cannot, as we become enamored of the new possibilities available to us with technology, leave behind those consumers who probably need good information the most -- lower income consumers, and those who have low literacy levels.

Consumer Protection

The second broad area is consumer protection. Consumer groups have traditionally urged regulation of business as the main means of consumer protection. Such regulation has often been successful, such as FDA's regulations to insure safe and effective drugs or NHTSA's regulations to insure safe cars.

However, current popular opinion - and certainly one that business has ascribed to for a long time - indicates that business may be overregulated. Beginning in the mid-70's and through the Reagan/Bush years, many consumer protections were lost to deregulation. Many more are at risk now. Consumer groups have responded in kind - with education programs and have advocated for disclosure so that purchasers would have at least adequate information on which to make a decision.

Unfortunately, in many businesses, disclosure and education are not adequate substitutes for explicit protection. Sometimes, public health or safety may be at risk -- and in other cases, necessary information is simply "unknowable" -- such as whether a life insurance company will be solvent 25 years from now. The issues may be too complicated for many consumers, the information may be presented in a manner difficult to understand (e.g., prospectuses for mutual funds) or an informed decision may require too much investigation (such as visiting a large number of nursing homes or figuring out which long distance calling plan fits your needs).

These problems suggest that current methods of consumer protection need to be evaluated and that other methods of protection should be explored. Alternatives to more regulation are needed. This is not to advocate for getting rid of regulations we currently have and need, but to say that we should always be exploring the most effective way to solve the problem. Public-private partnerships may be one possibility; simplifying and standardizing information may be another.

The research questions then are: how effective are traditional methods of consumer protection such as consumer disclosure statements compared to other

methods of consumer protection? What other approaches should be explored? What is an appropriate mix of government and private regula-tion, such as certification? What are the implications of alternative methods?

Several related questions deal with the regulatory system itself. How can the current public role in the regulatory system be improved to benefit consumers? Is an often invisible public comment period enough? What is the effectiveness of boards and commissions, and particularly the effectiveness of public members?

A specific area of exploration that I think would be extremely beneficial would be a cross-industry review. This would explore methods that work in one industry and determine how to apply them to other industries. For example, can the experience with developing appropriate food labels that provide consumers pertinent information give us guidance on how to label financial information?

Another area of exploration would be self-regulation. What have experiences with self-regulation taught us? (i.e., with attorneys, higher education or continuing care retirement communities.) Do these alternative methods to government regulation work as or more effectively? In which industries might it be feasible to pursue this?

And, as we increasingly face situations in which we must make hard choices from a policy perspective -- as we are with the balanced budget amendment debate -- our consumer protection choices will become more difficult. For example, what are consumers willing to sacrifice for environmental purposes? What are the needs of low-income consumers that must be balanced with the costs of pursuing environmental ends?

Marketplace Conditions

The final area in which there are research and education needs is marketplace conditions. It is not a secret that existing competitive markets combined with govern-ment regulation have not always worked to ensure a successful marketplace for consumers. Examples of recent failures include large ones, such as the savings and loan crisis, and smaller ones such as deceptive marketing of living trusts. An under-standing of how such failures arise could help policy makers avoid their recurrence.

Research could analyze economic and social factors strongly associated with or appearing in tandem with market failure. It could further explore what can be done to forecast or avoid such failures.

Included in the research on a scam or marketplace problem might be questions such as, how a fraudulent enterprise is initiated and implemented?; why the regulatory system did not forestall the problem?; what kind of targeting of victims was apparent, if any?; what kind of technology -- such as computerized mailing lists -- facilitated the failure?; who were the major players?; and what do these failures have in common?

An example of a research project fitting this objective might be bank sales of uninsured products, or pace-makers that were defective and yet implanted in consumers.

This agenda is extremely pertinent today. Today we are questioning regulation and possibly rolling back consumer protections of many years. We are facing the closure of many local consumer protection offices, which have provided an important consumer education function. And, we are seeing marketplace failures and dramatic changes (i.e., in our pension system, the role of unions and the banking industry). This agenda will be influenced by changes in the economy, marketplace structure, regulatory actions that may come sooner rather than later, and the philosophies of opinion leaders. Yet, answering some of these questions in the near term may better prepare us to meet the needs of consumers in the long term.

Endnote

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Nutrition Information: The Media, Government Regulation and Consumer Knowledge

This paper presents an overview of four presentations forming part of a special invited paper session at the annual meetings of the American Council on Consumer Interests. The papers focused on the topic of how nutrition information is provided to and used by consumers in their food consumption decisions.

Rosemary J. Avery, Cornell University[1]

The first paper in this special session, by Pappalardo[2] and Ringold,[3] entitled "**Evaluating 40 Years of Health Claim Regulation: An Analysis of Heart Disease Messages in Margarine and Oil Advertising**" focused on how government regulation affected the flow of information about diet and heart disease in consumer advertising between 1950 and 1989. The study included a content analysis of 412 oil and margarine advertisements to determine how advertising messages changed after government articulated major policy positions regarding health claims in 1959, during the mid-1970s, and again in 1984. Their analysis attempted to determine whether changes in advertising content following regulatory events could be explained by changes in scientific support for the diet/heart disease hypothesis, or changes in demand for information.

Their data indicate that claims about diet and heart disease began to appear during the late 1950s when major studies linking fat composition, serum cholesterol and heart disease were published. Furthermore, their results suggest that government policies articulated in 1959 restricted the flow of information of explicit claims about cholesterol and heart disease for over a decade, while claims about saturated fat and polyunsaturated fat content continued. Articles discussing the diet/heart disease link continued to appear in the popular press, and a significant proportion of consumers had begun to modify their fat consumption during the 1960s.

Their hypothesis that heart disease related claims increased following changes in the regulatory climate in 1984 was supported in their data. The use of saturated fat and cholesterol claims increased during the 1980s, but results indicate a slowly growing, rather than an abrupt, change around the time of the new regulatory climate in 1984. The trend was found to coincide with growing support for the diet/heart disease hypothesis. However, they conclude that regulatory changes did account for a modest increase observed in the use of explicit heart disease claims during the post-1984 period.

In the second presentation by Rosemary Avery and Alan Mathios,[4] entitled "**Food and Nutrition Messages Communicated Through Prime-Time Television**," they described a project currently being undertaken at Cornell University. The study focus is on nutritional messages conveyed via the medium of television. The motivation for the study is the belief that television educates consumers about food and nutrition through advertisements and program content, and that it contributes toward the establishment of norms regarding eating habits, appropriate foods to eat, when to eat, and body image. Previous research has found television to be one of the primary socializing agents in our society, and that television characters and families become strong role models for real life families. Other studies have found that many indirect messages about health are portrayed in the various lifestyles displayed in television programs, and that these lifestyles are imitated by viewers. Avery and Mathios note that these findings are particularly troublesome in the case of children who have been found to be unable to distinguish between television and reality. In addition, they note that health and nutrition messages conveyed via television are less than perfect, portraying an overabundance of fatty, unhealthy foods. The paradox is that television's portrayal of individuals emphasizes healthy and unreasonably thin body images.

The study being undertaken at Cornell University includes a content analysis of food and nutrition messages (verbal, visual and contextual stimuli) conveyed through prime-time television programming content. Both explicit (manifest) and implicit (latent) messages are being coded. The sample includes two weeks (fall, spring) of prime-time (7:00 to 11:00 p.m.) television on four networks (CBS, ABC, NBS, FOX). The researchers note that much of the effort on the project to date has been in the development of a research methodology (coding instrument) for capturing the complexities of implicit nutrition messages. They handed

out their coding instrument for comments from the audience.

The third paper, entitled "**Consumer Use of Food Labels: Impact of the New Food Labeling Regulations,**" was presented by Alan Levy[5] and Brenda Derby.[6] The paper focused on information provided to consumers via food labels, using some preliminary results from the Food Label Use and Nutrition Education Survey completed during 1994. A major objective of the 1994 survey was to discriminate between different kinds of label uses and to identify which parts of the label were more or less likely to be used.

In terms of label usage, their results indicate that in 1994, 74 percent of the population said they sometimes or often read nutrition information on food labels. This number is unchanged from 1990 and has been around this level since the early 1980s. Looking more specifically at the period during which the Nutrition Labeling and Education Act (1990) took effect, the percentage of people who had seen the new food label increased from 30 percent in April to almost 50 percent in September. However, their data indicate that since 1990 the number of people who said they recalled an instance in the prior two weeks when they had read nutrition information on the food label which had changed what they bought or what they ate, increased from 30 percent in 1990 to 52 percent in 1994. In addition, they found that certain kinds of people were more likely to use food labels than others: women, college graduates, and middle-aged individuals.

By far the strongest predictor of label use behavior was found to be how strongly a person agreed with the importance of "risk factor" dietary messages. Results indicate that consumers clearly discriminate between different kinds of possible label uses. The most common use of labels was found to be in determining whether a food is high or low in specific nutrients. Macro-nutrient amounts, high/low/free descriptors and ingredient lists are the top-rated parts of the label used. Clearly, these are the parts of the label that are most relevant to making product specific judgments. Serving size and health claims were rated much lower in terms of how often they are used. The implication of these results is that the average consumer uses food labels primarily as a source of product-specific information in the service of product selection, not as a source of information about nutrition science or dietary guidance.

Further analyses confirm that people who are more likely to use food labels are mainly interested in product-specific information and making judgments about the product. These individuals are relatively less concerned about health claims or about vitamin and mineral information and they are not likely to use labels for meal planning. In contrast, the kinds of people less likely to use food labels seem to have the opposite preferences. They are more likely to care about health claims, vitamin and mineral information, and they are more likely to have greater relative preference for dietary management food label uses.

Based on the results of their study, the authors express concern that food labels have limited potential as vehicles for nutrition education or dietary advice. On the other hand, they conclude that food labels are ideally suited to be effective tools that enable consumers to implement dietary beliefs they already hold. They note that the driving motivation for using food labels for many people seems to be concern about dietary risk factors, a concern which directs consumer attention primarily toward macro-nutrient information · and content descriptors, but that also extends to other product specific information on the label. Concern about risk factors, however, does not seem to direct attention toward educational or dietary guidance messages on the food label. On the contrary it seems to focus attention on product-specific information to the exclusion of more general types of information (i.e., health claims) on the label. They note that for someone who is already concerned about risk factors, the kinds of health claims likely to be seen on food labels are likely to be familiar and offer little new or added value information to such consumers.

The fourth paper presented in this session, entitled "**Information and Public Policy: A Study of Trends in the Consumption of Fat, Saturated Fat and Cholesterol**" by Pauline Ippolito[6] and Alan Mathios, examined changes in key aspects of the American diet (fat consumption) in an effort to understand more about the role of producers and the market, together with government and other general information sources, in helping consumers respond to diet-health knowledge. Their analysis focused on changes in fat and saturated fat consumption in the United States as information spread connecting these lipids to heart disease and cancer risks. Two regulatory regimes were examined; the years 1977-1985, when government and general sources of information sources continued their efforts to educate the public about the links between fats and disease risks, and the years 1985-1990 when the regulatory restrictions on producers were relaxed, allowing them greater freedom to use health claims in labeling and advertising.

Results from this study suggest that consumers reacted to information throughout the period but that the rate of change accelerated considerably after 1985, when producer health claims were added to the flow of information. In an effort to focus on why this acceleration might have occurred they examined consumption at a food-group level. Specifically, they examined the

hypothesis that, compared with government and general sources, producer provided information is better able to provide useful detailed information to identify marginal changes across and within a broad range of foods. Their results indicate that during the 1977-1985 period reductions in fat consumption were concentrated in largely the meat category with significant increases in fat consumption from other food groups. This change resulted in only a small overall decline in fat consumption during this period. In contrast, the larger overall reductions in fat that occurred during the health claims period were not focused on one or two food categories but were spread across a broad set of food groups. Ippolito and Mathios conclude from these data that advertising may play an important role in the spread of information, with significant effects on market behavior.

Endnotes

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Economic Well-Being of Disabled Elderly Households: The Impact of Multiple Factors

The objective of the study is to examine economic well-being among disabled elderly households. Categories included as predictors of economic well being were demographic, resource, and housing variables. Stepwise multiple regression was used to predict two criterion variables, income-to-need and net worth, The strongest predictor in both equations was investment income. Three other variables significant in each equation were level of education, household size, and IRA income.

Glenn Muske, Iowa State University[1]

Economic well-being among elderly is a complex issue. As pointed out by Stum, Bauer, and Delaney (1993), to understand economic well-being for this group, age 65 and above, involves "going beyond averages...to understand how diversity among the elderly and aging can differently affect economic status" (p. 199). While the economic situation of the elderly has improved over the last years so that poverty for this group is no greater than the population at large, the same is not true for all elderly sub-groups (Burkhauser & Duncan, 1988; Haveman & Wolf, 1990; Holden, 1988; Moon, 1988).

When considering the elderly and what puts them at risk of a negative change in their economic situation, one must consider the issue of health. Elderly health changes can happen often, come about quickly, have a large impact on overall level of satisfaction, and have a sudden and severe impact on financial well-being (Grau, 1987; Holden, 1988; Holden, Burkhauser, & Meyers, 1986).

The purpose of this study is to examine specifically non-institutionalized, disabled, elderly households and their economic well-being. This study is in part a replication of work done by Bauer, Stum, and Delaney (1993) and Stum, Bauer, and Delaney (1993).

Related Literature

As Bauer, Stum, and Delaney (1993) point out "questions and concerns persist regarding the economic vulnerability of an aging population" (p. 460). This concern arises among the elderly because it is not a homogeneous group. In particular, it has been found that the additional income sources beyond Social Security have a great impact on economic well-being (Schwenk, 1994). As income sources vary widely, the vulnerability of the elderly also then varies widely. In their work, Bauer, Stum, and Delaney (1993) wrote "...although a single factor can influence one's economic security, a combination of factors can have a devastating impact on a person's economic well-being" (p. 460).

Data and Methods

Data used in this analysis are from Wave III and Wave IV of the 1984 Survey of Income and Program Participation (SIPP). Data was summarized by household, created by aggregating all individuals occupying a dwelling unit into a household record. A frequency analysis was completed on each of the variables. The predictor variables are age, sex, marital status, sources of income, level of education, housing tenure, size and monthly housing costs. Criterion variables are income-to-need and household net worth. Stepwise multiple regression was used to examine which of the predictor variables were significant in explaining the variation in economic well-being.

Findings

Tables 1 and 2 present the results for each of the regressions performed. Investment income was the most significant variable found in both of the equations. For

Table 1
Regression of income-to-need

Step Var.	Adj. R^2	Stand. Beta
1. Gov. inc.	.3778	.532**
2. Invest. inc.	.5606	.383**
3. Earnings inc.	.6841	.406**
4. HH size	.7231	-.207**
5. IRA inc.	.7397	.129**
6. Education	.7432	.066**

** p<.01

Table 2
Regression of net worth

Step Var.	Adj. R^2	Stand. Beta
1. Invest. inc.	.4391	.592**
2. Tenure	.4554	-.130**
3. Education	.4709	.131**
4. HH size	.4750	.068*
5. IRA income	.4772	.056*

* p<.05 ** p<.01

income-to-need, it accounted for 18.3% of the variance. For net worth, it explained 43.9% of the variance explained by all significant predictors.

Discussion

One surprising finding occurred in the frequency analysis. Eighty-three percent of the sample is married which is much higher than would be anticipated. This is probably best explained that in order for the disabled person to live at home, they need the support of another person. As found in earlier studies, elderly who are not married, older, and female were more likely to be poor by both income-to need and net worth variables.

The economic well-being is a function of resources, either income or education. This supports the findings of earlier studies. Social Security alone does not provide adequate protection against the threat of poverty. In this study having multiple income sources increased the likelihood of remaining out of poverty or having higher net worth.

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Endnotes

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Wealth, Reservation Wealth, and the Decision to Retire

This paper introduces the notion of a wealth level at which a household is indifferent between no one in the household working and at least one household member working. This "reservation wealth" is estimated for a sample of recently retired households using variables consistent with economic theory. The results are used to compare the reservation wealth theory with an alternative hypothesis, that the sample is simply random with respect to net worth.

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One way to study the dynamics of the retirement decision is to estimate the amount of wealth sufficient to induce a household into no longer having any of it's members work for pay, presumably living off savings.

The wealth of a household is defined to be the per-year value of an inflation-adjusting, life-guaranteed payout annuity that would cost the household's net worth. For single individuals, the term on this payout annuity is the standard life expectancy. For married couples, the term is the expected period of marriage plus the poverty threshold ratio for 1 versus 2 people, multiplied by the expected period of widowhood. By treating the term of the annuity in this way, the wealth measure used incorporates the notion of a decreased cost of living when one of the two household member dies. The formula to calculate wealth, then, is just the following...

$$V = \frac{N}{\left(1-\frac{(1+r)^{-m}}{r}\right) + \frac{b\left(1-\frac{(1+r)^{-w}}{r}\right)}{(1+r)^{m}}}$$

Where V = the wealth of the household (i.e. - the payout of the hypothetical annuity), N = net worth, m = the expected length of the marriage (m = single life expectancy for single individuals), w = the expected length of widowhood (w=0 for single individuals),b = the adjustment for widowhood, and r = the prevailing real interest rate.

A household is defined as working if any of the members are working or planning to work in the future more than a significant number of hours (around 10 hours per week) and is considered retired otherwise. It is then assumed that all households where no one works or has any intention of working in the future and where someone in the household recently retired has actual wealth equal to reservation wealth.

Using economic theory and practical considerations, A general hypothesis regarding reservation wealth and it's determinants is formulated: reservation wealth is expected to be positively correlated with the wages and education levels of household members, and negatively correlated with the health status of household members. Also, being a white collar worker should raise reservation wealth, being single should reduce reservation wealth, and having more dependents should increase reservation wealth.

If this group of recent retirees were a random sample of individuals with respect to net worth, we would expect some of these relationships to be different. Relationships under this condition will be the alternative hypothesis, that reservation wealth does not exist. If this were true, then we would expect that wealth for this group of recently retired households related to other variables similar to the population as a whole. This would mean that we would expect that the wages of the household members, being a white collar worker, good health, and years of education would have a positive impact on wealth. These predictions are identical to those from the reservation wealth model. Also, under the alternative, the age of household members should be positively related to wealth, especially since life expectancy goes down with age. Under the alternative we would also expect having dependents to be associated with having less wealth, and we would expect for single individuals, males would have higher wealth levels, due to having higher net worth and lower life expectancies, controlling for age. The only prediction from the alternative hypothesis that directly contradicts the reservation wealth model is the one concerning dependents.

The reservation wealth model was estimated using households from the 1983, 1986 and 1989 Survey of Consumer Finances (SCF) who were not working or planning to return to work full time *and* where someone had recently retired from full-time work. There were also minimum hours of work requirements so that it can be reasonably believed that the decision not to work was more or less voluntary. Wealth estimates were calculated using a real rate of both 2 and 4 percent. Life tables from the 1988 Vital Statistics of the United States were used to calculate expected years of life and marriage. Wealth was then regressed against the explanatory variables discussed above using OLS to test the reservation wealth hypothesis against the alternative.

Regressions were run for a number of groups using both interest rates: First, for married couples, differentiating individual characteristics as "male" and female;" second, for married couples, differentiating individual characteristics as those of the "more recent retiree" and "less recent retiree;" third, for single individuals; and last, for both single and married households, using only the individual characteristics of the most recent retiree. There were no significant differences in the results from using the 2 or the 4 percent real interest rate. Table 1 presents a summary of the signs that were expected on the regressions from the two competing alternatives, and the actual results. Wealth was indeed found to be positively correlated with wages, being a white collar, worker and education, and negatively correlated with health status and being single, as expected. The regression coefficient on the number of dependents was positive but insignificant at the 10% level for all regressions run. Also, while the age coefficient had a positive significant sign in all the regressions, the sign on the dummy variable for men in the regressions run on singles came up negative. This result, along with the sign on the number-of-dependents coefficient, at least gives some indication that this is not merely a random sample of households with respect to net worth.

Future research in the area of reservation wealth and retirement could be applied to any and all issues where future labor force participation needs to be estimated. In particular, research of this kind could be used to estimate the expected outcome of an early retirement offer. As the workforce ages, questions like these will begin to mean more and more to the strategic planning of any organization with respect to it's workforce.

Table 1
The Reservation Wealth Hypothesis vs. The Alternative, and a Summary of the Results

(Dependent Variable = Wealth)

Explanatory Variable	Sign Res. V	Alt	Result
Wage	(+)	(+)	(+)*
White Collar[d]	(+)	(+)	(+)*
Poor Health[d]	(-)	(-)	(-)*
Yrs. of Educ	(+)	(+)	(+)*
Single[d]	(-)	x	(-)*
# Dependents	(+)	(-)	(+)
Age	x	(+)	(+)*
Male[d]	x	(+)	(-)

[d] = dummy variable
x = the hypothesis makes no prediction with regard to the particular variable.
* = significance found at 10% level

Endnotes

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Effects of Methods of Teaching Computerized Family Budgeting to Literate and Non-literate Women in Puerto Rico

Research done in the last 12 years indicates that low literate learners can perform better when using appropriate teaching methods. As a result of technological innovations, computers have been used as educational tools for low literate consumers. Budgeting Computer Assisted Instruction (BCAI) was developed to be used as a method for teaching family budgeting.

Carmen T. Andrades-Garay, Ohio State University[1]

Introduction and Purpose

The Budgeting Computer Assisted Instruction was designed as a method for teaching family budgeting to non-literate and literate women in Puerto Rico. Two pieces of budgeting computer software were designed, one with text only and one with special enhancements of graphics and voice.

Needs and Purpose of BCAI

The economic situation of women in Puerto Rico is difficult especially for less educated, divorced, and widowed women. In Puerto Rico, high percentages of women's educational levels are still in pre and illiterate stages. Even with the economic situation of Puerto Rican families and households, a literature review showed no evidence of valid educational computerized budget programs. Budgeting computer software is one of the technologically innovative resources available to help women to improve their own and their families' economic well-being. This study focused on testing BCAI which had not previously been done.

Methodology

The purpose of this study was to investigate the effect of two computerized methods of teaching on knowledge of budgeting for literate and non-literate women. The research design is true experimental, with randomized pretest-posttest control group design. Women were randomly selected from the Extension Homemakers Clubs of Maunabo, Puerto Rico ($n = 123$) and were divided into three groups: the control, the text only, and the voice and graphics groups.

The instruments used were Budgeting Knowledge Questionnaire, Attitudes toward Budgeting Computer Assisted Instruction Scale, and Demographic Characteristics Instrument.

Findings

ANOVA resulted in significant differences among groups on the demographic variables, age and number of dependents on participants' income. There were no significant differences among groups on the continuous variables age, number of children, and attitudes toward computer and residence. No relationships were found between group and the categorical variables literacy, place of residence, marital status, employment status and workplace. Women's perceived alternatives to cope with life situations that create financial crises were family help and find a job. Correlation analysis showed statistically significant positive moderate associations between pretest budgeting knowledge scores and literacy ($r = .30$), general attitudes toward BCAI ($r = .32$) and attitudes toward BCAI graphics ($r = .35$).

Women who received the BCAI with voice and graphics had higher budgeting knowledge scores ($M = 10.10$), when compared with those women who received the BCAI with text only ($M = 9.05$) and those women in the control group ($M = 9.46$).

Conclusions

The Homemakers Club members who participate in this study have the following characteristics: middle aged with a median age of 36; more likely to live in rural areas; mean educational level of 11th grade; more than two-thirds of them are literate; fewer than one third are low literate; their economic situation is poor and below the poverty level; the majority of them are married; have an average of three children.

They perceive budgeting and saving as important in home management; more than half of them feel unhappy about their economic situation; and think that budgeting cannot help them to meet needs, attain goals and desires.

Pretest budgeting knowledge scores show that those members with low pretest budgeting knowledge gained more budgeting knowledge with the BCAI with voice and graphics than those with high pretest budgeting scores. BCAI with voice and graphics is an effective method to teach budgeting concepts to those women with low pretest budgeting knowledge. Attitudes toward graphics and pre budgeting knowledge scores explain the posttest budgeting scores. General attitudes toward BCAI and attitudes toward voice do not explain variability in the posttest budgeting knowledge scores.

Implications of this Study

Corporations and policy makers need to maximize the use of national human resources, especially in our contemporary society, where corporation marketing strategies use advanced technology to influence consumer decisions. Consequently, corporations and policymakers need to be responsible in providing educational resources to help consumers make rational decisions. Subsequently corporations must become more socially responsible for funding educational materials and programs such as the BCAI. The BCAI can be used as a part of financial management counselling program that can be used in work place settings.

Currently, the BCAI is the only computer program designed for low literate consumers and women that is available in U.S. Cooperative Extension System. This program can be tested and used in other states that have Hispanic audiences. Cooperation between family resource management specialists in the States and other countries is needed to improve the quality of the program. Puerto Rico Extension belongs to the U.S. Cooperative Extension Service (CES). Therefore, can invest more of their resources to improve the effectiveness of the BCAI as a method of teaching adult learners.

Recommendations for Future Research

The instruments need to be evaluated for validity and reliability with similar audiences.
The budgeting knowledge test needs to be reviewed to improve the quality of marginal and poor items. Repeat this study in other places where Extension serves Puerto Rican audiences, using quasi experimental design. Duplicate this study in states that have Mexicans, Cubans or other Hispanic people in order to determine how understandable the Spanish used in the BCAI is to people of different Hispanic origins.

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Probability of Receiving an Inheritance and Leaving a Bequest: Evidence from the 1989 Survey of Consumer Finances

The results of logistic regression analysis using the 1989 Survey of Consumer Finances, suggested that a respondent's socio-demographic characteristics have significant effects on the probability of receiving an inheritance. The likelihood of a household's leaving a bequest was found to be positively and significantly related to its value of liquid and non-liquid asset holdings, education, and its attitude toward bequests, but inversely associated with the total number of children of the household. Household heads who were middle-aged, married, and not disabled were more likely to leave bequests.

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Introduction

About 80 percent of the wealth held by all American households comes from intergenerational transfers while the other 20 percent is accumulated from life cycle income (Kotlikoff & Summers, 1981). Economists estimate that more than eight trillion dollars of net wealth will transfer from one generation to the next over the coming twenty years. This is the largest movement of assets in the U. S. history (Zabner, 1993). The large percentage of wealth accumulated by intergenerational transfers and the magnitude of bequests transferred in the U. S. economy suggests a strong need for research on households' bequest behaviors.

Intergenerational transfers not only play an important role in wealth accumulation, they are also the primary cause of increased concentration of wealth in the United States (Carroll, 1991; Koretz, 1992). One study by Kennickell and Woodburn (cited in Koretz, 1992), estimated that the top one percent of all U. S. households held 31.3% of total household wealth in 1983. This percentage increased to 36.1% in 1989. The average net worth held by the top one percent of all households amounted to $5.9 and $10.3 million respectively in 1983 and 1989. This severe inequality of wealth distribution is deemed to have a great impact on the nation's economy (Carroll, 1991). Therefore, research on the characteristics of inheritance recipients and of bequest givers should provide some implications for policy makers on how to efficiently utilize national wealth.

Inheritance is recognized as a major factor in the persistence of economic inequality, an encumbrance in creating equal opportunities to families and individuals, and a barrier to socio-economic mobility. Low socio-economic mobility results in feelings of relative deprivation by people in the lower classes. These socio-economic phenomena and issues associated with inheritance have caught the attention of researchers and policy makers.

A number of theoretical and empirical studies on bequest motives, which challenge the long believed life cycle hypothesis of consumption, have been generating interest for researchers and economic implications for the government. There are three major bequest theories: 1) the altruistic bequest motive theory, which suggests that altruistic parents save financial wealth to leave to their children or invest in their children's human capital (Becker & Tomes, 1986), and in so doing, obtain utility in addition to that from their own consumption; 2) the strategic bequest motive theory, which indicates that parents hold bequeathable wealth to exchange for services they need from their children (Bernheim, 1991); and 3) the accidental bequest theory, which posits that people save due to uncertainty about the date of death or because of risk aversion, and thus, leave unexpected bequests after their death (Hurd, 1989).

Empirical studies have tested these three bequest theories, but there is no consensus about which theory is more appropriate and accurate in interpreting households' bequest behaviors. Little research has been done with identifying the determinants of bequest behaviors. Those studies that do exist usually employ regional or longitudinal data to predict the relationships between bequests and household's characteristics in their empirical models. However, national and cross-sectional data have been subject to little investigation. The present study, based on altruistic bequest theory, examines the effects of households' characteristics on their probabilities of receiving and leaving bequests, using data from a national and cross-sectional survey, which provides not

only detailed information about households, but also direct responses to inheritance questions.

Literature Review

According to human capital theory and altruistic bequest theory as posited by Becker and Tomes (1986), richer parents are more likely to give material wealth to their children to lower the pace of "regression to the mean". That is, wealthier parents not only derive satisfactions from their own consumption, but also from their children's well-being, and were more likely to leave bequests to maintain the children's economic standing or to preserve family wealth across generations (Menchik, 1989).

Several studies on intergenerational supports and caregiving among generations provide valuable empirical references to this analysis on the determinants of households' bequest behaviors. Cooney and Uhlenberg (1992) found that the age effect on the receipt of parental support was not linear, and that middle-aged householders were more likely to receive financial support from their parents than younger or older ones. Married couples were more likely to receive financial assistance from their parents, and also more likely to bequeath wealth to their spouses to assure the economic well-being of the survivors or to preserve family wealth through inheritance after they die (Kotlikoff & Summers, 1981; Hogan, Eggebeen & Clogg, 1993).

Previous research suggested that the differences in family structure, needs, and available resources, as well as migration which creates geographic distances between generations and might reduce the involvement of intergenerational interactions, in spite of the stronger family relationships recognized in black or Mexican-American families when comparing them to whites (Cox, 1987; Hogan, Eggebeen & Clogg, 1993). Hence, fewer intergenerational interactions among non-white households could lower the likelihood of receiving supports. Investigations by Cooney & Uhlenberg (1992) indicated that an individual who had more siblings would expect competition when inheriting wealth from parents. The parents of an individual who came from a larger family were less likely to have available resources for bequeathing as they might have already depleted their wealth in supporting a large family or have invested more in children's human capital (Tomes, 1981).

A household with more children would deplete family resources either by financing daily consumption or by investing in children's human capital (Becker & Tomes, 1986). As is well-documented by many studies (Cox, 1987; Eggebeen, 1992; Cooney & Uhlenberg, 1992), an individual's education was a significant determinant of providing financial assistance to children because the better educated were more likely to appreciate intergenerational interactions and to be altruistic toward improving their children's economic well-being than the less educated.

Methods

Conceptual Framework

Based on the altruistic bequest motive theory, which asserts that individuals derive lifetime utility not only from their own consumption, but also from the economic well-being of their offspring. Parents maximize utility by deriving additional satisfaction from bequest behavior which depends on children's needs, without reducing their own consumption.

This captures the spirit of the Becker's and Tomes' theoretical models (1986) in which parents gain satisfaction from children's well-being by augmenting children's earning capacities through investment in human capital and non-human capital accumulations. The probability of children's receiving a bequest is defined as a function of children's well-being measured by a linear combination of children's socio-demographic characteristics. On the other hand, parent's leaving a bequest to children to maximize utility is subject to their budget constraints. Parents expect to leave bequests based on their own financial and socio-demographic characteristics, assuming their consumption levels are known.

Data and Sample

Data used for this study are from the 1989 Survey of Consumer Finances, which was sponsored by the Federal Reserve Board in cooperation with other government agencies. This survey containing detailed and comprehensive financial and demographic as well as attitudinal information about 3,143 households offers two specific advantages to the present study. First, it over-sampled high income households which were considered more likely to involve bequest behaviors. A number of studies suggest that intergenerational transfers are one of the reasons for inequality of income and wealth distribution in the U. S. (Carroll, 1991). Therefore, it is important to include a high-income group to examine their bequest behaviors. Second, the survey contains inheritance and bequest data which are not available from other sources, such as the attitudinal variables toward leaving a bequest, expectations to receive and to leave bequests, and the amount of bequests ever received.

These allowed the present study to investigate the potential bequest behaviors of households.

Variables

The dependent variables in the two models are dichotomous. They were coded one if respondents expected to receive an inheritance or leave a bequest, zero otherwise. The probability of receiving an inheritance is a function of three groups of independent variables: economic factors including household income, liquid and non-liquid asset holdings; socio-demographic factors consisting of age, education, marital status, race, number of children under 18, and number of siblings; and health-related factors containing self-reported health and disability status. The likelihood of leaving a bequest is affected by four groups of factors. They are: household income, liquid and non-liquid asset holdings, amount of inheritance ever received, and self-employment status as economics factors; age, education, marital status, race, and number of children as socio-demographic factors; attitude toward leaving a bequest, ever made a charitable contribution, and extent of risk aversion as attitudinal factors; self-reported health and disability status as health -related factors.

The hypothesized effects of household economic and demographic factors on households' bequest behaviors were developed based on altruistic bequest theory and pervious research. Health-related and attitudinal factors have not been investigated inn existing literature. This study employed self-reported health and disability status of a household head and three attitudinal variables to explore their effects on households' bequest behaviors. As Census data indicates, individuals who were disabled had lower earning capacities (Bureau of the Census, 1994), and were less likely to accumulate available resources or wealth for bequeathing. Also, disabled individuals are more likely to incur more expenditures because of their special needs for health care and equipment or facilities, and thus have a lower probability of bequeathing in addition to the fulfilling of their own needs.

Individuals themselves who had more favorable attitudes toward bequest behaviors were expected to be more likely to have strong intentions of leaving bequests, as research on attitude-behavior relationship suggests that attitudes toward a specific behavior accounted for significant variances in behavioral intentions (Konkoly & Perloff, 1990). Individuals themselves who had more favorable attitudes toward bequest behaviors were more likely to have strong intentions of leaving bequests. Personal altruism was indicated by philanthropic behavior: whether a charitable contribution had ever made. This variable had a significantly positive effect on the probability of bequeathing. It is known that people leave bequests to spouse, children, and kin relatives, but may also bequeath their possessions to churches, foundations, or public welfare organizations (Zaleski & Zech, 1992). Respondents who were highly risk averse were less likely to leave bequests because they were conservative and would preserve their resources for future consumption after retirement or for their own financial emergency (Hurd, 1989).

Compared to the middle-aged householders, household heads at the earlier stage of life cycle might be more optimistic about their future economic standings or be less knowledgeable about the potential heavy burden of children's education and of health care expenditures in their retirement years, and thus, were more likely to expect to leave bequests. Elderly householders might expect that the wealth they owned would not be depleted during the rest of their lives (Cooney & Uhlenberg, 1992), so they were more likely to leave bequests.

Analysis

The two theoretical models, the model of the probability of receiving an inheritance and the model of the likelihood of leaving a bequest are empirically estimated by data from the 1989 Survey of Consumer Finances using the statistical procedure of logistic regression (N=3140)[3]. Since there are five multiple imputed data sets in the survey, logistic regression was performed for each set, and five sets of estimated coefficients and five variance-covariance matrices were obtained for each model. Combining analysis based on the Bayesian theory (Rubin, 1987) and SAS-IML procedure was used to obtain the final results.

Results

Sample Characteristics

About 19% of all households expected to receive inheritances in the future, while almost half of the sample expected to leave bequests to their children. For continuous variables, actual values were obtained. For instance, the mean household income before taxes and deductions was about $33,000, and the average number of children including those either co-residing or living outside, adopted, fostered and with in-laws was 2.36. For dummy and categorical variables, percentage of each specific category is calculated from the observed frequency, such that about 10% of household heads had higher education beyond college, 31% had a college degree or some college, and 59% attended school for

twelve years or less, almost 12% of the household heads in this sample were self-employed.

The Probability of Receiving an Inheritance Model

As shown in Table 1, the estimated coefficients were combined from the five individual logistic regression analyses. Education of a household head was found to be positively related to the probability of receiving an inheritance. As expected, a curvilinear relationship was found between the age of a household head and the probability of receiving an inheritance. Middle-aged householders were more likely to receive inheritances than those younger or older. Married householders were more likely to receive an inheritance than those who were single, widowed, divorced, separated, or never married. Whites were found to be more likely to receive inheritances than non-whites. As hypothesized, the number of siblings exerted a significantly negative effect on the likelihood of receiving an inheritance. A respondent perceiving him/herself in better health conditions was more likely to receive an inheritance than those having poorer health.

Table 1
Logit Results of the Probability of Receiving an Inheritance Model

VARIABLES	Coefficients
Intercept	-3.6092***
Economic Factors:	
Household income ($100,000)	.0219
Liquid assets ($100,000)	-.0195
Non-liquid assets ($100,000)	.0002
Socio-demographic Factors:	
Education	.5255***
Age	.0587*
Age squared	-.0010***
Married	.4122***
Race	.9466***
Number of children under 18	-.0589
Number of siblings	-.1558***
Health-related Factors:	
Self-reported health	.1627*
Disabled	-.2146
Model Fit: F - value	27.479***

*p < .05. **p < .01. ***p < .001.

Table 2
Changes in the Probability of Receiving an Inheritance

Changes in Variables	Changes in Probabilities
Education	
2 = college	+ .0673
3 = more than college	+ .1582
Age (by 10)	+ .0902
Age squared	- .0724
Married (0 vs. 1)	+ .0517
Race (0 vs. 1)	+ .1025
Number of siblings(by 1)	- .0186
Self-reported health	
fair	+ .0172
good	+ .0364
excellent	+ .0581

Table 2 presents the changes in the probabilities of receiving an inheritance as the magnitudes of the independent variables change. By calculating changes in the probabilities which indicated the strengths of the effects of independent variables on the predicted probabilities, this further step of model testing confirmed the results of the logistic regression analyses.

An individual who had a post-baccalaureate education had a greater probability of receiving an inheritance than a high school graduate by almost .16, other things being equal. As mentioned earlier, a curvilinear relationship existed between age and the likelihood of receiving an inheritance. Mathematically speaking, the probability increased by .0902 as a respondent's age increased by 10 years, but it decreased by .0724 when age squared was inflated by 1061.6. In other words, the probability of receiving an inheritance would increase as a respondent ages until he or she reached the age of 29.35. At that age, the probability of receiving an inheritance maximized at .2514, and then the likelihood started decreasing. Whites had greater likelihood of receiving an inheritance than non-whites by about .10, holding other variables constant. Having one more sibling lowered the probability of receiving an inheritance by .0186.

The Probability of Leaving a Bequest Model

As expected, the liquid and non-liquid asset holdings of a household were found to be significantly and positively related to the probability of leaving a bequest (see Table 3). This reflects the fact that households owning more financial resources were more likely to invest in accumulations of either children's human or non-human capital, in addition to financing their own consumption or needs (Becker, 1988; Becker & Tomes, 1979 & 1986; Bernheim, 1991; Hurd & Mundaca, 1989; Menchik & David, 1983; Tomes, 1981). Surprisingly, household income and the amount of inheritance ever received were insignificant factors affecting the possibility of leaving bequests after combining the results of the five data sets, but they were significant in the estimated model using individual data sets. Due to the multiple-imputation technique employed in the 1989 Survey of Consumer Finances, substantial variations in the estimated coefficients of these two variables were detected among the five data sets, and thus, altered the combined results.

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Table 3
Logit Results of Probability of Leaving a Bequest Model

VARIABLES	Coefficients
Intercept	-.3075
Economic Factors:	
Income ($100,000)	.5028
Liquid assets ($100,000)	.6883***
Non-liquid assets ($100,000)	.0574**
Inheritance ever received ($100,000)	.4991
Self-employed	.0258
Socio-demographic Factors:	
Education	.2051**
Age	-.0715***
Age squared	.0005**
Married	.2225*
Race	-.0364
Number of children	-.0588*
Number of siblings	-.1558***
Health-related Factors:	
Self-reported health	.0390
Disabled	-.8440***
Attitudinal Factors:	
Attitude toward leaving bequests	.6377***
Ever made a charitable contribution	.2387*
Extent of risk aversion	-.1480*

Model Fit: F - value 32.019***
*p < .05. **p < .01. ***p < .001.

Married household heads were found, as hypothesized, to be more likely to leave bequests than the non-married, and the total number of children was found to have a significantly negative effect on the likelihood of leaving bequests. Controlling all other variables, better-educated householders had a greater likelihood to leave bequests. Disabled householders were less likely to leave bequests than the non-disabled. The likelihood of leaving bequests varied significantly and positively according to the level of perceived importance toward bequeathing by a respondent. Respondents who had ever made a charitable contribution were more likely to be altruistic and to bequeath to either their descendants. The extent of risk aversion was negatively associated with the likelihood of leaving a bequest. This finding suggested that people maximize satisfactions by first enhancing their own consumption, which varies relatively according to personal psychological expectations, and then by increasing any heir's economic well-being through leaving bequests.

The strength of the explanatory variables can be seen in Table 4, where the impacts of changes in the magnitudes of independent variables on the probabilities of leaving bequests are presented. The probability of leaving a bequest is .5158, if the respondent had all the average characteristics among the 3,140 respondents.

Table 4
Changes in the Probability of Leaving a Bequest

Changes in Variables	Changes in Probabilities
Liquid assets (by $100,000)	+ .1637
Non-liquid assets (by $100,000)	+ .0143
Age (by 10)	- .1733
Age squared	+ .0924
Married (0 vs. 1)	+ .0555
Race (0 vs. 1)	+ .1025
Number of children (by 1)	- .0147
Education	
2 = college	+ .0512
3 = more than college	+ .1015
Disabled (0 vs. 1)	- .2034
Attitude toward leaving bequests	
2 = somewhat important	+ .1297
3 = no different	+ .2848
4 = important	+ .4380
5 = very important	+ .5632
Ever made a charitable contribution (0 vs. 1)	+ .0594
The extent of risk aversion -- the level of risk respondents were willing to take	
2 = above average	- .0360
3 = average	- .0726
4 = no	- .1096

Liquid asset and non-liquid asset holdings increased by $100,000 advanced the probability of leaving bequests by .1637 and .0143 respectively. The U-shaped relationship between age and the probability of leaving a bequest suggested that the likelihood declined as age increased, but heightened while age square mounted. Hence, an increase of 10 years in age resulted in a decrease in the probability by .1733. Inflating age squared by 1061.6 boosted the probability by .0924. That is, the likelihood of leaving a bequest descended until age reached 71.5 years with the minimum probability of .41, and then ascended. The difference in the probability of bequeathing between the married and non-married household heads was .055. An increase in the number of children by one lowered the likelihood of leaving bequests by .147, assuming other characteristics were held at sample means. The possibility of leaving a bequest rose as a respondent's years of schooling increased. Disabled householders were found to have less probability than the non-disabled of leaving bequests by more than 0.2. The attitude toward leaving bequests indicated strong differences affecting the likelihood of bequeathing. The probability escalated exponentially as the extent of a respondent's perceived importance increased. Individuals who were unwilling to take any

financial risk had a lower probability of bequeathing by 0.11, in comparison to those who were willing to take substantial risk.

Conclusions and Implications

Based on altruistic bequest theory and the findings of previous research, this study examined the probability of receiving an inheritance and leaving a bequest using the 1989 Survey of Consumer Finances. The results of logistic regression analysis suggest that a respondent's socio-demographic characteristics such as education, age, race, and number of siblings have significant effects on the probability of receiving an inheritance. More educated and white household heads had a greater likelihood of receiving an inheritance than the less educated or non-white ones. Household heads who were in the middle stage of the life cycle or had fewer siblings were more likely to expect an inheritance than those younger or older or who have more siblings. The probability of leaving a bequest by a household head was found to be positively and significantly related to the value of his or her liquid and non-liquid asset holdings, education, and attitude toward bequests, but inversely associated with the total number of children. Household heads who were middle-aged, married, and not disabled were more likely to leave bequests. The findings of this study suggest that individuals do have bequest motives: almost 50% of household heads expected to leave bequests. The average amount of an inheritance ever received amounted to $15,000 for this sample. The probability of leaving a bequest was .5158, which means a householder's likelihood of leaving a bequest was slightly higher than 50% in lay terms when his or her economic, socio-demographic, and attitudinal characteristics were all set at sample means.

By identifying and defining the factors affecting the probability of receiving inheritances and leaving bequests, and then examining the strengths of effects that a projected change might have, implications for making rational public polices related to inheritance can be drawn from this study.

Although the association between inheritance and unequal wealth distribution was not explicitly investigated, it can be seen from the findings of this study that household bequest behaviors or intergenerational wealth transfers are prevalent especially for high-income, affluent, and better educated households. A significant relationship between inheritance and income or wealth inequality has been suggested in a number of previous studies that showed redistribution would help reduce economic inequalities (Koretz, 1992; Kosters, 1992).

An effective inheritance tax policy may contribute to achieving the twin goals of wealth redistribution and socio-economic equality. However, one may argue that the ideology or "American Dream" suggests that people with talent, ambition, and efforts deserve the successes they achieve, the wealth they accumulate, and the social status they hold (Brinkerhoff & White, 1985).

Also, efficient and effective welfare and educational programs are essential to assist children from poorly-endowed families to have an equal opportunity of obtaining education and employment. However, these will not completely equalize employment opportunities that remain skewed by racial or gender discrimination. Findings from the study indicate that less educated and non-white householders are less likely to receive inheritances than the better educated and whites. This implies that the economic well-being of individuals with low human capital and non-whites would be even worse, and upward movement toward high economic status would be difficult for them. Therefore, more investments by the government in education and professional skills training as well as laws against discriminations in hiring and promoting would be fundamental to creating equal starting places and improving an individual's or household's socio-economic mobility.

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Endnotes

1. Ph.D. student, Department of Consumer Sciences and Retailing.
2. For both models, the sample included the 3,140 households in the 1989 survey after dropping three extreme cases: two of them had total household income over $90 million, and the third received inheritances over $35 million.